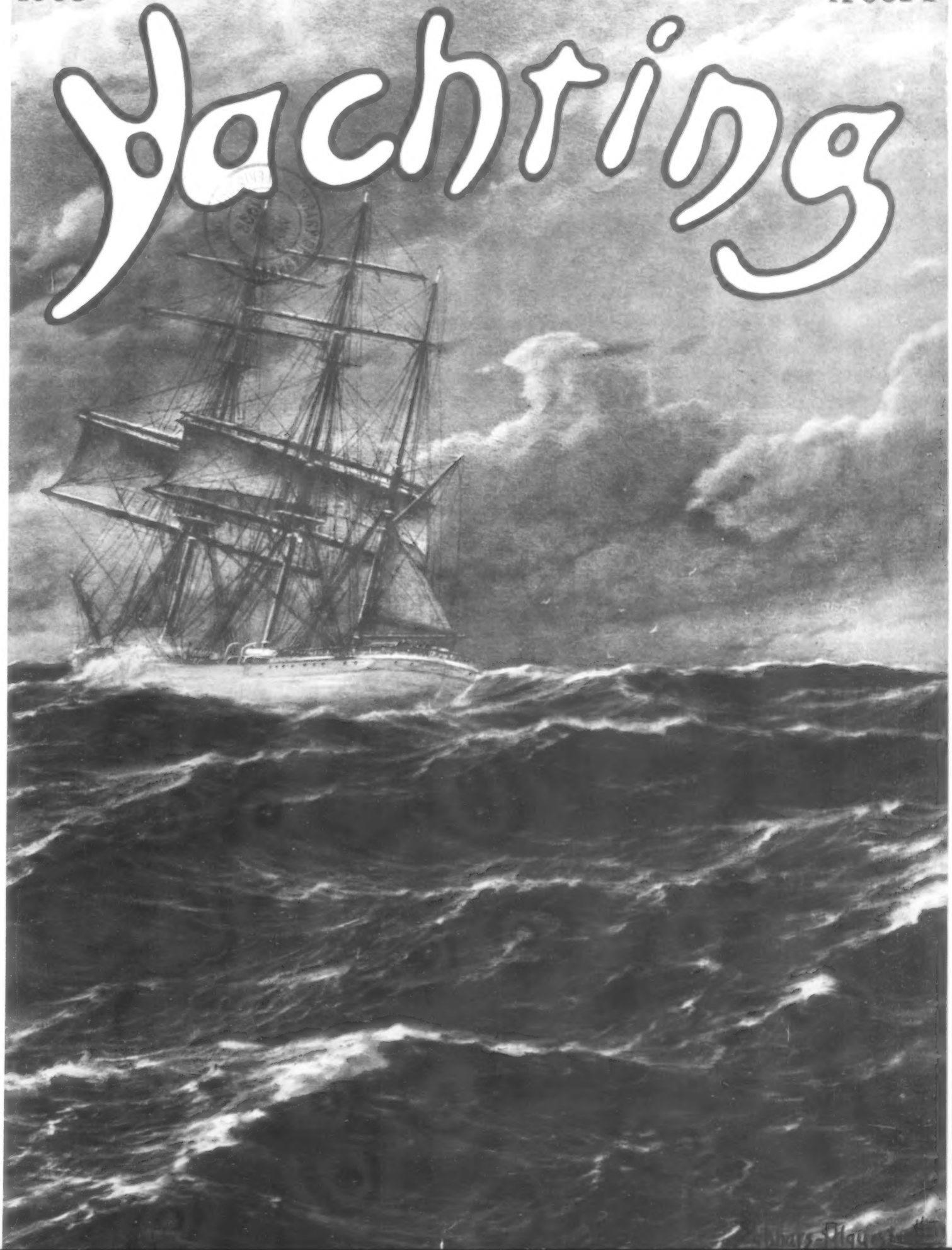
CEMBER
1908

MOTOR BOATING . SAILING

25¢
A COPY

Yachting



AN ELCO TYPE OF BRIDGE DECK CRUISER

The 52-foot Wistaria, equipped with 25 H. P. gasolene engine and making 11 miles an hour

¶ Do you want a modern motor boat?

¶ A boat that will be comfortable, seaworthy, so exquisitely finished that she will do you credit at any anchorage, and able to pass anything of her type and horsepower?

¶ This is the kind of boat which we build. And we are able to do it because we have our own staff of designers, the best and latest machinery, and an almost inexhaustible supply of well-seasoned lumber, and of fittings upon which to draw.

¶ Our workmen have been with us from season to season and have learned to do things the ELCO way.

¶ Our gasolene runabouts are demonstrations of how fast and how comfortable this type of launch may be turned out, and the record of our 33-foot Elco-Peerless, at the Hudson River Motor Boat Carnival of 1908—22.57 miles per hour (maintained for a run of 140 miles) has never been equalled by any other pleasure launch of her size.

¶ In the cruising classes we have also made our mark, and the Elco gasolene cabin cruisers are so designed in lines and accommodations as to insure speed, seaworthiness and the greatest amount of comfortable cabin room for passengers and crew.

¶ A notable example of our development of the cruiser is Wistaria, built by us the past season for Mr. A. G. Cheseborough, and which in her 52 feet of over-all length contains sleeping accommodations for owner and five guests beside berths for engineer and man forward. With her 25 H. P. engine she makes a speed of 11 miles per hour.

¶ We are the only builders of electric runabouts and day cruisers so popular for lake and river use, and these may now be charged by either direct or alternating current—a wonderful step forward in economy and convenience.

¶ We are wedded to no particular make of motor, and install in our hulls any make of engine desired by the customer, or as in our judgment will produce the best results for given purposes.

¶ That our facilities and stock of material on hand are second to no boat-building plant in the country is demonstrated by our recently securing the contract from the U. S. War Department for thirty-two 32-foot gasolene launches, which are being built and delivered to the Government at the rate of one boat a week.

¶ Our splendidly illustrated catalogue will be sent on request.

ELCO, Bayonne, N. J.

YACHTS FOR SALE AND CHARTER

A DEPARTMENT for the sale and charter of craft of every kind, in the interests of YACHTING'S *subscribers. A special low rate is made for advertisements in this classification, which includes the making of a half-tone reproduction, free of charge, from photograph furnished by the advertiser. For rates address*

ADVERTISING DEPARTMENT

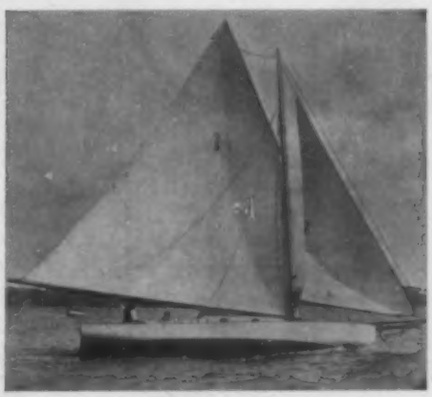
YACHTING PUBLISHING COMPANY
20 Vesey Street - - - New York

BARGAIN—Modern up-to-date cruising steam yacht, 90 feet over all; 16 feet beam; 4 feet draught. Speed 14 miles. Apply to Cox & Stevens, 15 William St., New York.

FOR SALE OR CHARTER—Handsome motor yacht, 72x14x4 two new 30 H. P. Realco motors just installed. Yacht specially adapted for coast and Southern cruising. Arrangement of dining saloon forward next aft galley, followed by engine room and crew's quarters, large toilet, stateroom and main saloon; sleep six beside crew. Seen in Brooklyn. Full particulars, Whittelsey & Whitaker, 11 Broadway, New York City.

FOR SALE.—Auxiliary center board, pole mast sloop, 26 ft. o. a., 10 ft. beam, 3 ft. draught; built 1905. 4 H. P. Mianus engine giving 5½ miles. Two suits sails, wheel steering gear. Large cabin with clothes lockers, dish racks, ice box, etc. Always had best of care and is absolutely sound. Reasonable. A. W. Stone, 520 West 122d Street.

FOR SALE.—Hunting cabin power cruiser. Very desirable for cruising in Southern waters. 45 ft. long, 12 ft. beam, 3 ft. 3 ins. draft. Very strongly built of best materials, framing white oak, planking Virginia cedar, brass screw fastened, cabin and outside woodwork of mahogany. Very large cockpit, with waterproof canopy and side curtains. Interior of cabin finished in red cedar and mahogany panel work; has 6 ft. 6-in. headroom all parts; furnished with cushions, carpets, etc. Sleeping accommodations for six. Has Sands toilet and lavatory, large water tank, galley fully furnished. Stove, pump, sink, ice box and cooking utensils, dishes and table ware. Prest-O-Light gas lights in cabin and searchlight. 25 H. P. 4-cylinder standard motor (giving the boat speed of twelve miles per hour). Extra heavy copper gasolene tank, pipes outside of boat. Fully equipped with everything necessary, mahogany trimmed dinghy boat, two anchors and cables, sailing and anchor lights, fire extinguisher, barometer, ship's clock, binnacle compass. Low price for a fine sea boat. Now in commission. Come and see her or address, W. H. Frank, Commodore Poughkeepsie Yacht Club, Poughkeepsie, N. Y.



WANDERER V, 34 x 21 x 11 x 3' 6". Designed and built by C. C. Hanley. Launched July, 1908. Everything the best, double planked, hollow spars, steel running and standing rigging, Cousins and Pratt sails, five jibs, spinnaker, mahogany finished cockpit and cabin, sleeps eight, tight, able and fast. Won N. B. Y. R. A. championship, week of racing, and finished third for championship of season notwithstanding late start, against large class of very fast boats. The only Hanley boat of ecent build on market. Sold for no fault. Price reasonable. Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—New, slightly used, high-class, built to order 20 H. P., 4 cycle, heavy duty Loxier Marine Motor, including clutch and reverse gears, bronze shaft, stuffing box and three bladed propeller, switch batteries, Schebler carbureter, Gasolene strainer, oilers and whistle, all complete; perfect in every detail and ready to install. Can be seen running. Address J. J. Barr, 206 West 105th Street, New York.

BARGAIN.—Hunting cabin cruiser similar to illustration. 35 ft. o. a., 9.6 in. beam; 34 ins. draught; sleeps 4; toilet, galley, etc. 12 H. P. Standard engine; all new, 1907. Completely found; one man boat; steering and engine control in one. Price attractive. Apply to Cox & Stevens, 15 William St., N. Y.

NO. 1909—FOR SALE.—Best bargain on market. Fast centerboard knockabout. 28.10 x 18 x 7.9 x 3 ft. draught. Built 1903 from designs by Hand. Best construction. Accommodation for two. Two suits sails. In fine condition; very able and has won numerous races. Sacrifice for quick sale.

Henry J. Gielow, 50 Broadway, New York.

FOR SALE—Auxiliary schooner yacht, 70 feet over all, 17 feet beam, in excellent condition, completely overhauled in 1908. Acetylene light. Complete inventory. Very seaworthy. Four staterooms. Have spared no expense in keeping boat up. Have just bought much larger boat, and will make this a great bargain. For particulars write

G. E. GROFF,
47 Broadway,
New York, N. Y.

FOR SALE.—Crack Herreshoff sloop, 102 ft. 6 in. over all, 70 ft. waterline, 19 ft. beam, 11 ft. draft. Comb nation keel and center board. Four state rooms including one large double room. Composite construction. Splendid cruiser and fast. All modern conveniences and steam heat.

A fast Herreshoff steam launch can also be purchased with her if desired, to be used as her tender. Th.s launch is 82 ft. over all, 72 ft. water line, 10 ft. 9 in. beam and 2 ft. 7 in. draft. Has triple expansion engines. Speed 20 miles an hour. Galley, dining room and pantry forward.

Both these boats can be bought together or seperately at low prices, and no yachtsman desiring to purchase boats of this descript on should neglect this opportunity. Hollis Burgess Yacht Agency, 15 Exchange St., Boston. Mass.

NAVAL ARCHITECTS AND YACHT BROKERS

A DIRECTORY of reliable Yacht and Ship Designers and Brokers.

FOR ADVERTISING RATES ADDRESS
YACHTING PUBLISHING COMPANY
20 Vesey Street, New York

MORGAN BARNEY
NAVAL ARCHITECT
Personal Attention Given to the Design and Details of Cruising Yachts and Launches.
29 BROADWAY NEW YORK

J. F. SMALL
Naval Architect
SUCCESSOR TO SMALL BROS.
Yachts and Commercial Vessels Designed and construction supervised. Able, roomy, comfortable cruising power boats a specialty.
112 WATER STREET, BOSTON, MASS.

COLLENDER & KIGGINS
(Succeeding Macconnell & Cook, Dissolved)
All Type Yachts For Sale and Charter
45 BROADWAY, NEW YORK
Marine Insurance Tel. 2468 Rector

COX & STEVENS
Engineers, Naval Architects, Yacht Brokers
15 WILLIAM STREET NEW YORK CITY
Telephone 1375 Broad

G. CHAUNCEY PARSONS
AGENT FOR
THE FAMOUS SWAMPSCOTT
CLIPPER—CLUB—RIVERSIDE
AND POWER DORIES.
5% Discount on all orders received before December 20, 1908.
100 FRONT ST., NEW YORK.

FOR SALE AND CHARTER.—An exceptionally desirable express steam yacht at a price way below real value.

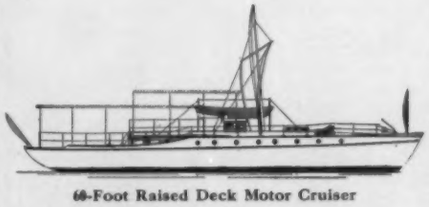
I also have for sale all the better steam yachts, auxiliaries, gasolene cruisers, cruising schooners and yawls, racing sloops, etc., that are available for purchase. Write me your requirements. Frank Bowne Jones, Yacht Agent, 29 Broadway, New York.

BATH MARINE CONSTRUCTION COMPANY
BATH, - - - MAINE
Designers and Builders
Of Pleasure Craft of All Kinds

21 foot Runabout

HENRY DOUGLAS BACON
Naval Architect
10c. FOR CATALOGUE

CRUISING and RACING MOTOR YACHTS
EITHER FULL POWERED, AUXILIARY, GAS, OR STEAM; IF
Designed by W. STARLING BURGESS CO., LTD.
ARE MOST SATISFACTORY IN EVERY PARTICULAR WHEN
Built by the W. STARLING BURGESS CO., LTD.
AND PROVED ON THE MEASURED MILE WITH PROPELLERS
Fitted by the W. STARLING BURGESS CO., LTD.
FINISHED BOATS, ESTIMATES AND PROPOSALS MAY BE SEEN AT
OFFICE AND WORKS IN MARBLEHEAD, MASS.



60-Foot Raised Deck Motor Cruiser

DESIGNED BY
WHITTELSEY & WHITAKER, Inc.
H. H. WHITTELSEY M. M. WHITAKER D. I. WHITTELSEY
Naval Architects and Marine Engineers
Designers of Steam and Motor Yachts and Motor Boats of all Classes
Agents for Thornycroft Propellers
Brokerage 11 BROADWAY, NEW YORK Insurance

MANNING'S YACHT AGENCY
Established 1873.
17 Battery Place, New York City
Yachts of Every Description for Sale and Charter
SEND FOR OUR 1908 CATALOGUE

HENRY J. GIELOW
ENGINEER, NAVAL ARCHITECT
and YACHT BROKER
50 Broadway - New York City
Telephones 4673 and 4674 Broad.

GEORGE OWEN
NAVAL ARCHITECT AND ENGINEER
Yachts of All Sizes Designed and Construction Supervised
Estimates Furnished for All Types of Marine Craft and Machinery
Designer of "Little Rhody," "Little Rhody II," "Whirl," &c.
WINTHROP, MASSACHUSETTS
TELEPHONE 381-6 WINTHROP

WILLIAM GARDNER
NAVAL ARCHITECT
Engineer and Yacht Broker
All classes of yachts, vessels, and machinery designed and superintended during construction.
Telephone 2160 Rector
1 Broadway New York City

ATKIN-WHEELER,
YACHT DESIGNERS AND BUILDERS.
HALESITE, (HUNTINGTON HARBOR,)
LONG ISLAND, N. Y.

VOL. 4 No. 6.

Contents
December, 1908

Cover Design: Close Reefed
Frontispiece: At the End of the Passage
THE INLAND LAKE REGATTA - - - - - - - - - - - - ORLO BARTHOLOMEW 293
Photographs by George Buxton and C. T. Thayer
THE BAY CITY RACE - - GLEN B. HILLER 297
Photographs by the author
THE MONTH IN YACHTING - - - - - - 298
Photographs by Arthur F. Aldridge
FLEUR-DE-LYS AND THE SPANIARD - - - - - - - - - - - - HENRY IRVING DODGE 301
KNOTS - WILLIAM E. PARTRIDGE 302
Photographs by Edwin Levick
MODERN LUBRICATING SYSTEMS - E. T. KEYSER 304
Illustrations and Diagrams by courtesy of Ferro Machine and Foundry Company, Sherwood Manufacturing Company and the William Powell Company
A STUDY OF BOWS AND STERNS - - - - - - - - - - - - - - FREDERICK W. GOELLER, JR. 306
FLAG ETIQUETTE - WARREN HAPGOOD 308
HOW TO BUILD A THIRTEEN-FOOT POWER TENDER—PART II - - - - - - HOWARD A. PIKE 310
Diagrams by the author
THE LIFT OF THE SEA—ILDICO II. IN THE OPEN OUTSIDE OF CAPE COD - - - - - - - - - 312-313
Photograph by Charles H. Davis
AROUND THE HORN—THE LOG OF A SECOND MATE - - - - - - - - T. JENKINS HAINS 316
ENGLISH YACHTING - ROBERT MAC INTYRE 318
MEETING OF THE YACHT RACING UNION OF THE GREAT LAKES - - - - - - - - - - - - 318
WITH OUR READERS - 319
DRIFTWOOD - 320
A FIFTY-FOOT FERRY SERVICE POWER BOAT - - - - - - - - - - - - - - - - - - - 321
A NINETY-SIX-FOOT HOUSEBOAT NAJME - 322
A NINETY-FOOT TWIN SCREW MOTOR YACHT - - - - - - - - - - - - - - - - - - - 324
LORNA DOONE. A FIFTY-TWO-FOOT AFTERNOON CRUISER - - - - - - - - - - - - - - 325
EDITORIAL - 326
MOTOR BOAT SUPPLEMENT - 328 and 330

LAWRENCE PERRY, Editor

Published Monthly. 25 cents per copy. $3 00 per year. For Foreign Postage add $1.00. For Canadian postage add 50c. Copyright, 1908, by Yachting Publishing Company. Entered as Second Class Mail Matter at the Post Office, New York, N. Y

YACHTING PUBLISHING COMPANY, 20 Vesey Street, NEW YORK, N. Y.

AT THE END OF THE PASSAGE.

"The work was hard
And the voyage was long,
So it's time for us to leave her."

"A stout line was drawing Silver Sea swiftly into port."
Page 817.

YACHTING

VOLUME IV. NUMBER 6 December, 1908 25 Cents a Copy $3.00 a Year

LIBRARY OF CONGRESS
Two Copies Received
NOV 30 1908
Copyright Entry
Nov. 24. 1908
CLASS B XXc. No.
174037
COPY B.

SETTING SPINNAKERS AFTER CROSSING LINE FOR A RUN DOWN THE WIND.

The Inland Lakes Regatta

ANNUAL REGATTA OF THE ASSOCIATED YACHT CLUBS OF MINNESOTA, WISCONSIN AND MICHIGAN—A WEEK OF EXCELLENT SPORT MARKED BY CLEVER SEAMANSHIP AND KEEN RIVALRY—WHERE THE SCOW TYPE STILL HOLDS SWAY AND FURNISHES THE MOST SPIRITED RACING OF THE WEST

By ORLO BARTHOLOMEW

Photographs by George Buxton and C. T. Thayer

ON Lake Minnetonka, that beautiful sheet of water, near Minneapolis, was sailed last August the regattas of the Inland Lakes Yacht Racing Association. This association is the leading organization of its kind in the Northwest, including, as it does, the principal yacht club of Minnesota, Wisconsin, and even Chicago. At its regatta is seen the best and most keenly contested racing west of Lake Michigan. It is here that the scow type has reached, probably, its highest state of development, being built to nearly forty feet in length. Occasionally, a sharp-nosed boat will find its way into the fleet, but the scow holds its popularity with remarkable persistency, being peculiarly adapted to the water conditions met with.

The Minnetonka and White Bear Yacht Clubs took the honors in the week's racing at this year's regatta, Troubadour, of White Bear, being victorious in the 38-foot A Class, while Butterfly and Skip, of Minnetonka, sailing in home waters, took the most points in the 32-foot B Class and 21-foot C Class of cats, respectively. Tomahawk, of Minnetonka, took second place among the larger sloops, and had she not broken her mast in the second race she would probably have been the champion. As it was, she was only two racing points behind Troubadour.

Among the Class B sloops, Royal Flush, of Calhoun, took the second honors, with Merry Widow, of White Bear, but one point behind. Before the regatta, the experts had picked the White Bear boat for a very close second, if not the champion. Although she started in well, taking second place in the first two races, she fell down on the next two, finishing in the fourth and fifth positions. In the last race of the series she made the best showing of the week as she beat Butterfly out for first place.

There were but two contestants in Class C, Skip, of Minnetonka, and Doe-Wah-Jack, of Pistakee. Three other cats of the same model as the Minnetonka boat had entered, but were withdrawn after having been decisively defeated by Doe-Wah-Jack in the Northwestern regatta at Geneva, Wis. Four out of the five races were won by Skip, and had she not broken down in the first race, she would probably have been the victor in all five. Allen Hill, skipper of the Minnetonka boat, deserves most of the credit for Skip's victories, as he defeated a boat that had been declared unbeatable by other skippers.

The course for the first race was a four-knot triangle, and for the second, to leeward and return, each to be sailed three times around, the distance being the same in either case, twelve

knots. The weather conditions were perfect during the week, and better winds could not have been asked for. At times it was rather stiff, but not a sail was reefed in any race.

The first race was sailed Monday morning for the Class B sloops and Class C cats. There was a good full-sail breeze blowing and the "B" entries crossed the line in a bunch. Butterfly soon took first position, with Merry Widow second. Butterfly was sailing a good race and was more than a minute in the lead on the second round when her spinnaker man was thrown overboard. He was picked up again quickly, before the Merry Widow had overtaken the 'Tonka boat, but the distance between the two was greatly reduced. Butterfly stretched out her lead to two minutes on the remainder of the course and was the winner of the first race. Merry Widow finished second, Twenty-Three third, Royal Flush fourth, and Young America last. Twenty-Three had fouled a buoy and was disqualified. Virginia started for the line, but broke a side-stay before the gun was fired, and withdrew. In the Class C race Doe-Wah-Jack defeated Skip, but not until the 'Tonka boat had broken her peak halyards and been delayed at least five minutes.

In the afternoon nine Class A boats started. They were well bunched when the gun was fired. On the first leg Tomahawk lead, while Royal Flush was a close second, Twenty-Three third, with Virginia and Young America fighting it out for the last honors. Although the other boats were well on their way, Butterfly was close behind at the buoy and turned second, Merry Widow leading. Butterfly soon overtook her rival, and from then on it was easy sailing for the Minnetonka boys. At the windward buoy the Twenty-Three was third, Royal Flush fourth, Virginia fifth, and Young America last. On the beat back Twenty-Three dropped back to fifth place, the Royal Flush and Virginia both passing her. Twenty-Three soon picked up again, passing the Virginia. At the finish the boats crossed the line in the following order: Butterfly, Merry Widow, Royal Flush, Twenty-Three and Virginia. Young America had dropped out.

The Class C race was a walkover for Skip from the start. The 'Tonka boat took the lead with the report of the gun, and the Pistakee entry never came within striking distance.

The course for the Class A race was the same as sailed by the "B" boats in the morning. The start was very close, Black Point and Kathryn having whatever advantage there was. The first leg was a run, and the boats kept together. Handy Andy II, Pats IV and Kathryn all took turns at holding the lead, but at

CLASS A—HEADED FOR THE STARTING LINE IN FIRST RACE. PATS IV IN THE FOREGROUND.

TOMAHAWK. HAD SHE NOT BROKEN HER MAST IN THE SECOND RACE SHE MIGHT HAVE WON THE SERIES.

pulled into the leading position, with Troubadour second, but before turning the buoy she had dropped back to fifth place. Troubadour turned first, with Kathryn second, Pats IV third, and Black Point fourth. For the remainder of the first round the boats kept the same positions, except that Tomahawk took fourth place from Black Point. At the start of the second round Handy Andy II dropped back to fourth position, allowing Tomahawk to pass her. The 'Tonka boat soon overtook the two leaders, taking first position herself. The wind dropped a little at this time, and for the remainder of the race it was easy sailing for Tomahawk, and at the finish she was five and a half minutes in the lead of Troubadour. Handy Andy II was third, Kathryn fourth, Black Point fifth, and Sieglinde eighth. Pats IV was disqualified for not giving Oconomowoc room at the home buoy on the second round.

Tuesday morning the wind was as favorable as it had been the previous day, and another good day of racing was assured. All of the Class B boats were well bunched at the start and crossed the line almost together, excepting Butterfly. Her skipper did not know the starting time and when the gun was fired was a minute and a half from the line. The course was to leeward and return, making the first leg a run. Merry Widow took the buoy Pats IV was first and Kathryn second. The other boats turned at so nearly the same time that it was difficult for the skippers to keep their crafts from fouling, but there were no disqualifications. On the beat back, Pats IV maintained her lead, while Tomahawk and Troubadour were fighting it out for the second honors. At the windward buoy Tomahawk and Troubadour passed Pats IV. On the run back to the leeward mark the two leaders kept the same relative positions. In turning, Tomahawk had the inner berth and turned five seconds in the lead. She had made a good start on the beat back, and a second victory looked certain for her, when the brass plate, holding the side-stay, pulled out of the hull. Halie Reiter brought his boat about on the other tack at once, but the mast had cracked well up towards the top. It was a bad accident to repair while under way, and when finished, all of the other boats had turned the windward buoy, and were started on the last round. The 'Tonka sailors were game, however, and sailed the remainder of the course for the one point that went with the last position. Troubadour had an easy time of it after Tomahawk was out of the way, and all that Ordway had to do was to sail safe. The White Bear champion finished a minute and sixteen seconds before Oconomowoc, which was in second place. The other boats

MINNETONKA IN AN IDLE MOOD.

TROUBADOUR, CHAMPION OF CLASS A.

SKIP, CHAMPION OF CATBOAT CLASS.

finished in the following order: Black Point, Handy Andy II, Algoma, Pats IV, Kathryn, Sieglinde and Tomahawk. The wind was shifty and uncertain Wednesday, but from the spectator's point of view it made the sport all the better. The triangular course was sailed in each race. Butterfly was again the Class B winner. The 'Tonka boat took the lead at the start, and although at one time Royal Flush was within striking distance, she could not overtake Butterfly. Merry Widow finished in fourth place in this race, while Royal Flush came in second. This tied these boats for second place, as each had thirteen points to its credit. Butterfly had first place "cinched" with eighteen points. Twenty-Three was fourth, Virginia fifth, and Young America sixth.

The Class C race was another walkaway for Skip after the first leg of the race had been sailed. Doe-Wah-Jack made it interesting for the 'Tonka boys for a short time, but she could not stand the pace set for the remainder of the race.

Troubadour was the winner of the Class A race, taking the lead with the report of the gun, and was never in danger of being overtaken. All of the boats were well bunched in crossing the line. Pats IV took second place on the first leg, with Kathryn third, Handy Andy II fourth, Algoma fifth, and Oconomowoc sixth. In turning the first buoy Algoma got in stays, and in trying to avoid fouling, Oconomowoc lost her headway and both boats were stalled. Before they could get under way again Tomahawk, Sieglinde and Black Point had all passed them.

The second leg was a reach and Tomahawk showed some of her real speed, working into third place, with Pats IV second. Positions were not changed on the second round, excepting that Tomahawk overtook and passed Pats IV, taking second place. Troubadour was well in the lead at the finish of the first leg of the final round, the 'Tonka boat being more than ten minutes in the rear. Tomahawk was favored with a stiff squall on the next leg and cut this difference in half. She was too far behind, however, and Troubadour crossed the line five minutes and twenty-eight seconds in the lead. Among the other boats, Pats IV had maintained her lead, finishing five minutes and twenty-seven seconds after Tomahawk. Kathryn was fourth, two minutes and twenty seconds behind Pats IV. The other boats finished as follows: Oconomowoc, Handy Andy II, Sieglinde, Black Point and Algoma.

Thursday's races were sailed over the two-leg course, the boats starting from the windward mark and going with the wind for the first leg. Skipper Markoe sailed circles around the other Class B boats in the morning's race, Butterfly being in the lead when the boats crossed the line and her position not being endangered during the race.

Among the boats fighting for second position Royal Flush was the winner after a pretty fight with Twenty-Three and Virginia. Third place went to Twenty-Three, with Virginia fourth. Merry Widow made another poor showing in

MERRY WIDOW, CLASS A, ROUNDING THE FIRST MARK.

HANDY ANDY ROUNDING STAKE BOAT IN THE FOURTH RACE.

TWENTY-THREE AND ROYAL FLUSH. TWENTY-THREE IS FOULING BUOY.

this race, finishing fifth. The Young America held the lead on the White Bear boat for the first part of the race, but on the second round Young America was passed and finished last.

Doe-Wah-Jack made a good showing on the first half of the Class C event. The Pistakee boat crossed the line first and kept ahead of Skip during the first round. On the first leg of the second round Skip overtook Doe-Wah-Jack and finished more than five minutes in the lead.

Kathryn had whatever advantage there was at the start of the Class A race. The first leg was a run and the boats kept close together. Handy Andy II soon passed Kathryn and held the lead for the remainder of the race. At the leeward buoy Tomahawk was second, Sieglinde was third and Troubadour fourth.

On the beat back Sieglinde dropped to the last place and Troubadour went into third position. Kathryn was fourth, with the rest strung out. The order was unchanged on the next round, except that Oconomowoc dropped back behind Black Point and Algoma.

For the remainder of the race the boats kept the same positions. At the finish Tomahawk was two minutes and fifty seconds behind Handy Andy II, while Troubadour was two minutes and forty-seven seconds later. The other boats finished in the following order: Kathryn, Black Point, Oconomowoc, Pats IV and Sieglinde; Algoma being disqualified.

At the finish of Thursday's racing Troubadour of White Bear, Butterfly of Minnetonka and Skip of the same club had the most points and had the championships cinched in their respective classes.

The first round of Friday morning's Class B race brought out one of the best contests of the series. Butterfly took the lead at the start, with Royal Flush second and Merry Widow close in her wake. At the first buoy Butterfly turned thirty-seven seconds ahead of Royal Flush, while Merry Widow was five seconds later. Merry Widow overtook Royal Flush on the next leg, the boats not changing their positions again until the last round. Butterfly was in the lead, with Merry Widow a close second at the start of the first leg of the last round. This was a reach, and it was a fight for first position. The White Bear boat passed Butterfly with apparent ease the first time, but the 'Tonka skipper took the windward position and was again in the lead. The boats took turns at holding the lead all down the leg. At the buoy it was Merry Widow's turn. Butterfly was close behind the leader however, and sailing fast, and might have taken the lead before the finish had not an interfering catboat spoiled all such hopes. Skip took the final race of the Class C series in easy style, winning by ten minutes and one second.

In the Class A race, four of the nine boats crossed the line before the gun was fired, and had to be called back. The first leg was a reach, and most of the boats had turned the first buoy and were well started on the second leg before the motorboat that had been sent in pursuit overtook them. Three of the skippers showed true sportmanship and returned to start over again, but Kathryn was withdrawn. The three boats to make the second start were Troubadour, Algoma and Handy Andy II.

Tomahawk took the lead, with Oconomowoc second. At the start of the second round Oconomowoc passed Tomahawk, and there was a hot fight between these two boats, the 'Tonka boat again taking the lead on the third round and keeping it for the remainder of the race. The other boats did not change their positions, except that the Troubadour passed the Algoma. The boats finished in the following order: Tomahawk, Oconomowoc, Pats IV, Black Point, Sieglinde, Troubadour and Algoma. The Handy Andy II broke down.

The record time for Class A was made by the Tomahawk in Friday's race. The actual time for the twelve knots was one hour thirty-nine minutes and thirty-seven seconds. In Class B, the Butterfly made the best time, which was one hour fifty-two minutes and thirty seconds. The Class C boats sailed around the course but twice, making eight knots. The Skip made the best time, covering the distance in one hour forty-eight minutes and fifty-two seconds.

The regatta was one of the most successful ever held, and the members of the Minnetonka Yacht Club, and especially Commodore Frederick Fayram, are to be congratulated upon the manner in which it was conducted.

The racing was close, and the best of feeling prevailed, there being no protests and but few boats being disqualified. To all the yachtsmen the week was most enjoyable, and they are already looking forward to the meet next year, when they may again meet their rivals of this year's racing.

The following table shows the number of points won by each contestant during the week:

	CLASS A.	
Troubadour	White Bear Yacht Club	37
Tomahawk	Minnetonka Yacht Club	35
Oconomowoc	Oconomowoc Yacht Club	29
Handy Andy II	Oconomowoc Lake Club	26
Black Point	Lake Geneva Yacht Club	25
Pats IV	Pistakee Yacht Club	21
Kathryn	Lake Buttes des Mortes Yacht Club	21
Sieglinde	Lake Geneva Country Club	14
Algoma	Oshkosh Yacht Club	12
	CLASS B.	
Butterfly	Minnetonka Yacht Club	29
Royal Flush	Calhoun Yacht Club	22
Merry Widow	White Bear Yacht Club	21
Twenty-Three	Lake Buttes des Mortes Yacht Club	14
Virginia	Oshkosh Yacht Club	9
Young America	Duluth Yacht Club	6
	CLASS C.	
Skip	Minnetonka Yacht Club	9
Doe-Wah-Jack	Pistakee Yacht Club	6

THE ISLAND OF THE MINNETONKA YACHT CLUB

The Bay City Boat Club's First Motor Yacht Regatta

By GLEN B. HILLER

Photographs by the Author

THE first annual power-boat regatta of the Bay City Boat Club was a big success. There were two races, a free-for-all and a handicap, the former being run to determine the handicaps of the racers in the second event. The handicapping system was the most satisfactory of any ever used here, the boats being rated on their actual performance in the free-for-all. If any boat exceeded the time made in the free-for-all by 3 per cent., it disqualified her. The entries were General II, Arrow, Eye Opener, Genevieve, Humming Bird, Lemon, Teddy, Two Howards and Wonder.

GENERAL II AT FULL SPEED.

A remarkable performance was witnessed between General II and Arrow. These boats were the favorites in the race and interest naturally centered in the results. The course was 10 miles in length. In the free-for-all, Arrow won, being the first to cross the line on the start and on the finish, though General beat her on elapsed time by exactly one second. In the handicap race, all the boats were considerably slower, but General II won, defeating Arrow by exactly one second again. Neither boat had the slightest trouble and they maintained their respective positions over the entire course.

Another feature of the races was, that seven of the nine starters were equipped with 3-cylinder engines, all of 15 to 20 horse-power, and all but two of these had one make of engine, making the result depend largely on skill in handling the boat, and on the model of the hull.

The types of the boats were varied from the deceptive Arrow to the freak Lemon. General II, Lemon, Teddy and Wonder were strictly freaks, everything being sacrificed for speed, even to the appearances of the craft. Painted a flaring lemon color, the boat bearing that name made a striking appearance as it tore through the water throwing a spray that made the boat almost invisible at times. This resistance against the water proved her undoing, however, for it takes power to throw such a spectacular spray. Arrow is one of the smoothest-running boats in the world, making little fuss. Her engine keeps up a continual buzz that is distinctly different from the loud roar of the other boats in her class. This quietness of going makes her deceptive as to speed, for she moves much faster than one would suppose.

None of the boats made the speed claimed for them before the race, but General II got the best time over the course, which was 23:22 for the 10 miles.

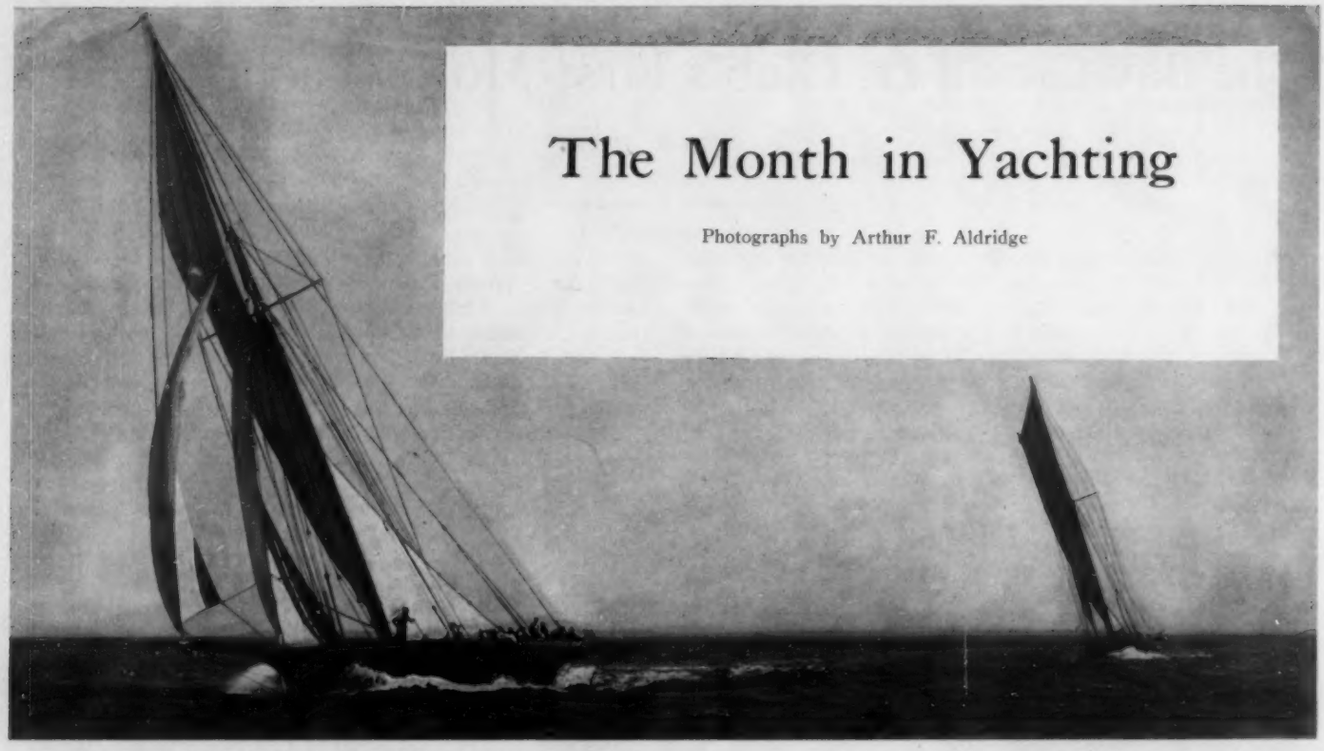
General II was stripped of every seat and all weight that was unnecessary, leaving merely a shell. Wonder's construction created considerable interest. She is built of 1/16 inch steel plates and weighs but 320 pounds without the engine.

Teddy is another light boat and the narrowest racing machine in the contest, being but 3 feet beam and 25 feet long. Eye Opener is of the more steadier and permanent type and runs smoothly.

General II is a sister boat to General I, and is owned by E. R. Walker, of Detroit. The latter gave Dixie the hardest brush she ever had at Palm Beach, and led the former owner, E. J. Paradis, to construct another boat on practically the same model, but without the long bow.

LEMON, THE FREAK. ALTHOUGH SHE THREW A CLOUD OF SPRAY SHE WAS NOT FAST ENOUGH TO WIN.

The experiment with boats having a skeg bottom is practically at an end around Bay City. Boat builders are now turning to the flat-bottomed boats when speed is wanted, and are trying to take away the resistance at the bow, which is created by boats of the skeg-bottom type. These flat-bottomed boats, like General I, General II, Teddy, Arrow, and others, make much less fuss in the water, run more smoothly and do not leave a tumult in their wake.



The Month in Yachting

Photographs by Arthur F. Aldridge

THE ENGLISH-BUILT CUTTERS HESTER AND EELIN. IT HAS BEEN SOME TIME SINCE AMERICANS HAVE GONE TO ENGLAND FOR RACING BOATS.

NOW unslip the leash and let loose the dogs of war. Nothing, since motorboating as a national sport was instituted in this country, has come with such explosive effect as the action of the International Association of Yachting-Automobile, which comprises in its membership the principal national motorboat clubs, yacht clubs and automobile clubs of France, Germany, Great Britain, Italy and Monaco, in selecting the Automobile Club of America as its sole American representative.

This means that the automobile club will have the sole governing authority in all international motorboat races or competitions held in the United States. The selection of this club by the foreign association was forecast by farseeing yachtsmen in this country after the Automobile Club of America organized a motorboat division. The organization of this division was in charge of Dave Hennen Morris, who represented the club at the International Congress at Dieppe, France.

The honor which has come to the Automobile Club has evidently caused no blush of diffidence among its members. Far from it. They are preparing to assume their new functions in a way which shows a pretty adequate grasp of the situation as it has existed here for some years past. It is announced that the club intends to assume charge of the sport in this country at once, in order to place it upon a firmer and broader basis than has heretofore been the case. Uniform rules will be framed under which motorboat races can be run in all parts of the country, and the rules of the international body as at present constituted will be rigidly enforced. More than four hundred of the most prominent yachtsmen in the United States are on the rolls of the Automobile Club of America, and these men will take an active interest in furthering the ends of the motorboat division.

Naturally, this announcement has caused rumblings of war among motorboat men, and that some of them will not submit gracefully to the recent coup of the Automobile Club of America is a foregone conclusion. The Motorboat Club of America, which now holds the Harmsworth International Cup, won by Dixie II on Huntington Bay, is of course, principally affected. This organization has always been looked upon as the American representative of racing, and any person who believes that it will gracefully yield to the "interloper" will be brought to a realizing sense of his mistake before many weeks are past.

Now, the fact, of course, is that the Motorboat Club of America holds the Harmsworth trophy and naturally any challenge from the other side would have to be accepted by this club. I hardly think the club would accept a challenge for a race under the auspices of the motorboat division of the Automobile Club. In truth, for some weeks past, negotiations among the officers of the Motorboat Club of America and several foreign motorboat organizations have been in progress, and announcements will soon be due which will have the effect of debating right strongly the A. C. A.'s claim to supreme authority in the sport of motorboat racing in the United States.

There is one thing that is very certain about this whole situation: the sport of running swift motorboats in competition in this country is in sad need of reform. According to careful estimate there are at the present time some eighty thousand power craft in operation throughout the country, and the methods which have characterized the conduct of the sport have not in any way kept pace with the growth. Everyone has his own ideas as to measurement, racing rules and the like, and no two contests are held under the same conditions.

Charges of cheating and of lax management have not been lacking among the aftermath of many important races, and if the intervention of the Automobile Club of America were needed to place the sport upon a decent, workmanlike basis, why, then, I, for one, would acclaim the action of the International Association as heartily as the most ardent member of the A. C. A. And, as a matter of fact, there is no great surety that this new factor in power-yacht racing is not needed.

Of late, there has been a great deal of talk of the conference of all motorboat interests at the National Motorboat Show at the Madison Square Garden in February, the object being to

frame rules looking to a uniformity in all matters pertaining to motor boat racing. Several clubs in the West have written, accepting invitations to participate in the conference, and, in all, representatives of a score of motorboat organizations have signified their intention of taking part in the deliberations.

Well, even so! But motorboat men have met before, have disagreed, and have parted with even less understanding than existed before they met. It may be that the step taken by the Automobile Club of America will tend to make the situation so acute as to be apparent to every motorboating organization in the country, and that a representative gathering will be held in February.

Yet even this is problematical, and against it is to be placed an organization of great power, wealth and initiative, ready, eager, to take every step to place the sport in the position to which it is entitled. I, personally, have very strong preferences, but it is not my place to state them here; the situation as here outlined may be left to the good sense of motorboat men generally.

ECLIPSE, WINNER OF THE NAVY CHALLENGE CUP FOR SCHOONERS ON THE NEW YORK YACHT CLUB CRUISE.

Mr. L. J. Callanan was so kind as to call upon us recently to correct a report appearing quite extensively in the daily prints, to say nothing of this magazine, that the schooner Taormina had won the Navy Challenge Cup for schooners on the New York Yacht Club cruise last August. Nothing, apparently, could have been further from the truth, since Mr. Callanan's schooner Eclipse won this trophy. Lest the owner of Taormina now descend upon us, we append herewith official confirmation of the fact as submitted to the owner of Eclipse by H. B. Parson, chairman of the New York Yacht Club Regatta Committee:

"Referring to yours"—Callanan's letter—"of the 11th inst., I find from the sheet of winners just completed (*sic*) that Eclipse won three first prizes in Class E and the Navy Challenge Cup for schooners."

I am glad to print this correction, for Mr. Callanan is one of the most sportsmanlike yachtsmen on the Atlantic seaboard and his Gloucester-built yacht, with her sturdy lines and trim spars, has ever been a factor wherever a good race has been sailed, whether under the auspices of the club whose burgee she flies, or not. Some Philistines have had the ill-grace to say that Eclipse in New York Yacht Club regattas off Glen Cove has been a hoodoo boat, in that she brought calms to that classic course; but every sane-minded person realizes, of course, the tenuity of such humor.

Announcement that Dixie II, successful defender of the Harmsworth Cup on Huntington Bay last summer, is going to enter the motorboat carnival at Monaco next season, is calculated to inspire Americans to the highest enthusiasm. American boats have been conspicuous by their absence at this great motorboat meet on the blue Mediterranean, and until Dixie II showed her heels to Wolseley-Siddeley and Daimler II, the general opinion was that they did things better in the speed line on the other side. No one believes that the Schroeder flyer has yet shown all that she can do in the way of speed. When she defeated Wolseley-Siddeley on Huntington Bay by 49 seconds she was then supposed to have attained everything that was possible, her average time in the race being 32.15 statute miles an hour. Later she ran a mile at the rate of nearly 37 miles an hour, and then, for the first time, the public began to appreciate adequately what a wonderful boat Dixie was. But why hold back her top speed? Why reserve the best that is in her? The statement that the flyer will race at Monaco next year answers these questions. That she will be in better condition to bring out every knot that lies within the power of her engines next year is absolutely certain. The more a man knows of his engine, the more time he has for tuning her up and checking various evil habits as they develop—engine habits do not all develop simultaneously—the better qualified is the boat for winning cups. Dixie II should make things hum over at Monaco, and we may

NEPSI AND PHRYNE, THE NEW YORK THIRTIES THAT WON THE MOST POINTS IN THE SERIES FOR THE CHAMPIONSHIP OF LONG ISLAND SOUND.

QUEEN, PICKING UP VINEYARD LIGHTSHIP IN A FOG DURING THE CRUISE OF THE NEW YORK YACHT CLUB.

look to her return with all sorts of prizes stowed away in her carburetor, as it were.

How many motorboats are there in this country, anyway? This question arises from the surprising statement of Gen. Clarkson, Surveyor of the Port of New York, that in New York Harbor and adjoining waters there are some eighteen thousand motor craft. Estimates place the total of power yachts of various kinds and descriptions in the United States at the present time at about seventy thousand. These figures are based on general estimate and seem to be about as approximate as anything could be, considering the methods of calculation. The government, I understand, is about to make an effort to tabulate motorboats and motorboat owners in this country, and I would suggest that any blanks which club secretaries may receive from the Treasury Department, as to membership and boats, be answered promptly and concisely. Personally, I should think it would pay the Lloyds to go in for something of this sort. Certainly there is a demand for such a compilation, and the returns should be no less satisfactory than those realized from the register of sailing yachts issued each year by this company. I assume that there are adequate returns from this annual record of windjammers, since it appears each year better and bigger and more valuable.

Women make excellent sailors. Their power of intuition, which is an important component in yacht racing, stands them in good stead when, with tiller in hand, they diagnose manœuvres of opponents, or forecast quirks and turns in the wind. On the eastern seaboard, Mrs. Barstow won many honors this year. In her husband's boat, Soya, she defeated Commodore H. Child's sloop Joy, sailed by Mrs. Currier, in the deciding race between the two, held on Gravesend Bay last September. In the series of women's races held last summer under the auspices of the Atlantic Yacht Club, each woman had won eight points, and the deciding race was held on September 18 in a heavy fog. Both women showed rare facility in picking up marks, but Mrs. Barstow's sloop finished 28 seconds ahead of her rival. This was mighty good racing. On Oyster Bay, the wives and daughters of members of the Seawanhaka Corinthian Yacht Club make great racing in small sloops every summer, and classes manned entirely by the fair sex, if the bull be permitted, are growing up among all Sound clubs.

Nepsi, Phryne and Alera were the bright, particular stars in the racing of the New York Yacht Club one-design, thirty-foot class last season. The year before it was Alera and Adelaide, which shows one advantage of well-built one-design boats, inasmuch as success depends upon the ability with which they are sailed and handled generally. Here are the figures of the racing of the class in 1908:

SERIES FOR CHAMPIONSHIP OF LONG ISLAND SOUND.

Name.	Number of Starts.	Possible Points.	Actual Points.	Percentage.
Nepsi	10	72	58	.805
Phryne	10	69	50	.725
Alera	12	81	51	.630
Atair	12	81	50	.617
Hera II.	7	51	29	.569
Minx	9	65	36	.554
Ibis	9	65	19	.291
Carlita	2	15	4	.267
Dahinda	10	72	17	.236

SERIES FOR SWEEPSTAKES CHAMPIONSHIP.

For this series twenty scheduled races during the season of 1908 were selected, and each contestant contributed a certain amount to be used in the purchase of an appropriate prize for the winner.

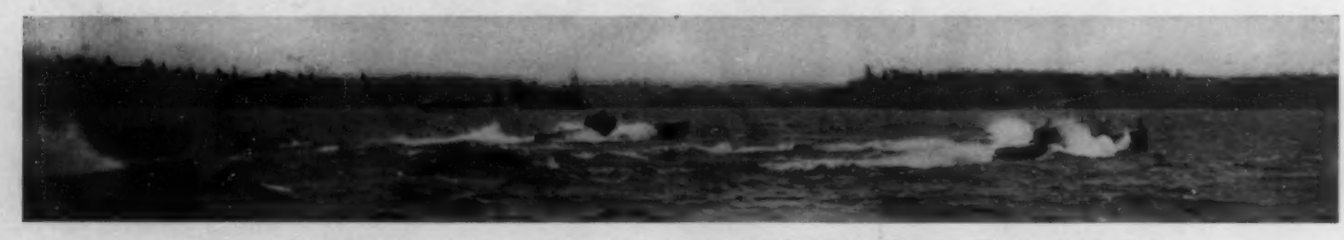
Name.	Number of Starts.	Possible Points.	Actual Points.	Percentage.
Nepsi	15	135	106	.785
Alera	16	144	111	.771
Phryne	15	135	98	.726
Minx	12	108	76	.704
Atair	17	153	104	.680
Hera	13	117	66	.564
Melody	1	9	4	.444
Dahinda	14	126	54	.428
Ibis	13	117	47	.402
Carlita	2	18	7	.389

The uniform rules of measurement were not sufficiently altered to daze anyone at the recent meeting of the Atlantic Coast Conference, comprising representatives of most of the Eastern yacht clubs, held at the New York Yacht Club. Before the meeting we heard great stories of what was going to be done. The New York Yacht Club made public a list of recommendations for amendments at least a yard long. There were suggested drastic changes in rules as to length and quarter beam and the like, and the newspapers were filled with all that was going to happen at that great conference. Well, nothing happened; at least nothing of consequence. In the main the ratings as adopted at the Atlantic Coast Conference of 1905 remain practically unchanged, which means that boats of the type of Queen and Avenger will continue to be built for some time to come. As a matter of fact, there are those who doubt if better all-around boats could be produced under any rule. They certainly have demonstrated that the rating rules as they stand are capable of producing record-breaking windjammers, and that is all that any yachtsman can ask. And I do not believe that Avenger's speed or Queen's speed is merely relative. They are as swift as any schooners or sloops that ever sailed. Certainly, Queen nearly equaled the record for the Sandy Hook Cup course in her race against Elmina in 1906.

I now hear that another meeting of the conference has been called for December 2, to reconsider some of the amendments which were rejected at the previous meeting. This looks as if there was some dissatisfaction at what was done, or rather left undone, at that time. It seems probable that the measurement of L., which has not proved altogether satisfactory, will be altered, but whatever action is taken will be watched with interest.

The number of great steam yachts built for Americans at English shipyards of late causes me to remark, in a sort of self-defense, that, at all events, we don't go to Europe for our windjammers anymore. Time was when it was quite the thing to do so, and a number of English-built, as well as English-designed, boats appeared in American regattas. Everyone remembers the cutter Eelin, now in the possession of Mr. Dexter in Beverly, Mass.; Astrild, owned by the Hanan brothers, and burned to the water's edge in a fire some years ago; Isolde, still in racing trim; Ailsa, Hester and others. Hester has raced off and on in past seasons; but for the most part, American-built and American-designed yachts of far greater speed have rendered not only unnecessary, but suicidal, so far as winning cups is concerned, the ordering of racing sail yachts abroad.

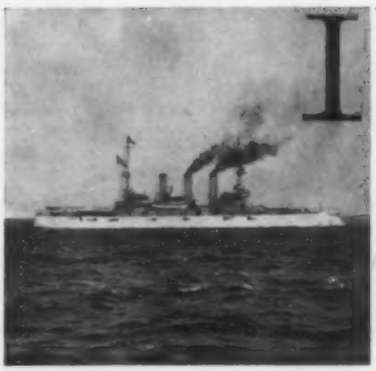
These were good boats, built strongly enough to cross the Western Ocean on their own bottoms, but in racing they were, with the possible exception of Queen Mab, not successful against American-built boats of their day.



UNDER THE AUTOMOBILE CLUB OF AMERICA, NEXT YEAR WE MAY SEE MOTOR-BOAT RACING CONDUCTED AS IT IS IN EUROPE.

Fleur-de-Lys and the Spaniard

By HENRY IRVING DODGE



IT has not fallen to the lot of many yachts to play at hide-and-seek with gunboats. When such a thing does occur, however, it is not difficult to imagine which part the pleasure craft takes in the game. America, when a blockade-runner, led a Federal gunboat a lively chase in the course of the Rebellion, and then sought desperate refuge at the bottom of the St. Johns River. Corsair, on the other hand, converted into a miniature gunboat and renamed Gloucester, put two torpedo boats out of commission off Santiago after a short engagement. However, they were Spanish torpedo boats.

To Fleur-de-Lys was accorded the distinction of being the only gentleman's boat, solely on pleasure bent, to give the Spaniard a lively chase in his own waters during that brief struggle. Fleur-de-Lys was owned by Mr. George Lord Day and commanded by James A. Loesch. Fully manned and provisioned, and having her owner and a party of guests on board, she started for a cruise in Mediterranean waters early in March, 1898. Even before her departure war clouds had begun to assemble on the horizon of international affairs; but Mr. Day was optimistically color-blind, and saw nothing but the cerulean sky of peace. So orders were given to get ready for a cruise. Most everyone remembers how fine early March of that year was—a decade to a day, almost, from the great blizzard. With all sails set Fleur-de-Lys, one sunny morning, dropped down through the Narrows, passed the Hook, and pointed her nose for the Western Islands. For days she swung along on the blue Atlantic swell. Peak after peak of the blue Azores loomed from the sea, stared lazily at the passing schooner, and sank astern beyond the edge of the world. Then Loesch veered a little and pointed Fleur-de-Lys for the Pillars of Hercules.

But Fleur-de-Lys was destined not to reach Gibraltar. The nearest she got was Cadiz, at the western end of the Straits. One fine morning she was rolling saucily off this ancient town, her company—cabin and fo'castle alike—glad with expectation of a time ashore, when a Scotchman, carrying iron ore, came along. When near by, the tramp signalled "Who are you, and where are you going?"

"Deuced impertinent of that rough fellow to thus address me," thought saucy Fleur-de-Lys, and ignored the presumption. But the Scotchman was curiously persistent: "Who are you, and where are you going?" he repeated; and for answer got a snub. Then he came near and hailed. Still Fleur-de-Lys ignored him. Then the Scotchman did a curious thing. He made a circuit around the yacht and read her name under her stern. It was now his turn. So he ran near, stopped his engines, gruffly advised the discourteous Yankee that war was on between Spain and Uncle Sam, then set his screw to churning the sea and headed for Plymouth.

That was a fine kettle of fish! War on with Spain and she, Fleur-de-Lys, a helpless pleasure craft, within gunshot of an Iberian stronghold! Owner, guests, captain and crew for a moment regarded one another with dumb wonderment; then Loesch acted. Fleur-de-Lys' one hope lay in her legs—she was a good footer. So her master squared away to the northward, hoping that the drowsy people of Cadiz had not espied him, and that he might steal away under cover of night.

Late in the afternoon they saw two small auxiliary gunboats over her stern, but the breeze freshened and Loesch lost them in the darkness. All night they pushed her, with every stitch of canvas straining; all night captain, owner, guests and crew stayed on deck, watching over the stern for the recurring lights of the gunboats, for the prospect of being captured was not alluring. About midnight something seemed to happen to the gunboats—possibly their coal supply gave out—for their lights gradually became extinct. There was much rejoicing on board Fleur-de-Lys now, but Loesch pushed her on, and then at daybreak what "to their wondering eyes should appear" but a four-stacker just ahead! Surely they had run from the frying-pan into the fire. It was too late to turn tail and run for it, for the big fellow had already seen them. Surely that was the Spanish flag at the masthead: yet there was something in it that struck Loesch as curious. It was still not light enough to scrutinize distinctly the emblem, even with the glasses. But presently the sun came up—suddenly, it seemed—sending its rays across the wrinkled waters and striking the flag of the stranger. And now their delighted eyes beheld the St. George's cross.

"WITH ALL SAILS SET, FLEUR-DE-LYS, ONE SUNNY MORNING, DROPPED DOWN THROUGH THE NARROWS."

Presently the Britisher signalled, "Who are you?"

Fleur-de-Lys answered promptly—no more insolence on her part after her experience with the good-natured Scotchman.

"Keep inshore," the Britisher signalled—"stick to neutral waters."

"Have no chart," Loesch replied.

Then the friendly stranger did a thing that might have resulted in international complications if it had become known. Yet it was only the imparting of a little bit of apparently trivial information. Her next signal read, "I'm go-

ing that way." She might just as well have said, "Follow me; I'll pilot you," and thus rendered assistance to an enemy of Spain. But Loesch was an adept at reading between lines. He didn't need to have the friendly Britisher's meaning spelled out to him. So he followed—he followed that man-of-war for thirty-six hours. It isn't likely that the British Government ever knew how much it cost Old Albion in fuel in order that one of her gallant sailors might do a good turn to a gallant sailor of another nation in time of trouble. At any rate, the man-of-war disappeared when Fleur-de-Lys entered the harbor of Lisbon.

At Lisbon Mr. Day and his guests left the yacht and proceeded to Paris.

It did not take Loesch long to learn that the good people of the Portuguese town were neutral in a nominal way only. In a way, they were as unfriendly—even more so—than the Spaniards themselves might have been expected to be. They covertly indicated hostility. In innumerable petty ways they showed Loesch that he was most unwelcome. In other words, they made it so hot for him that he was glad to cut his visit short, even at the risk of being taken when he should run out of the harbor. The annoyances to which the official and the unofficial part of the populace subjected the doughty people of Fleur-de-Lys were inconceivably absurd. They warned Loesch to dismount his deck guns—ornamental pieces designed merely for barking good-morning and good-night to the sun, and other trifles. The crew was not safe from molestation whenever they chanced to go ashore, and always went in a body. Nor did the clink of American gold even tempt the tradespeople to be polite. On the contrary, Loesch found it difficult to get a supply of water and provisions for his boat, and when he finally did this, curiously, it was from a Spaniard. The Portuguese also indulged in such pleasantries as crowding the landings and smashing Loesch's boats, and the like. Presently, it was made plain to the good captain that his presence in port was no longer tolerable, and he prepared to leave. Of course, he had been aware that, just to leeward of Cape Spico, beyond the mouth of the Tagus, lurked two Spanish gunboats, ready to pounce upon him. But Loesch had *carte blanche* to sink Fleur-de-Lys, burn her, or anything else, rather than let the beautiful creature get into the hands of the Spaniards. So he determined to make a run for it. He asked for a pilot. They wouldn't give him any, slyly laughing in their sleeves as they refused. Very good! He'd go without one. As he approached the bar beyond the city, Loesch found that the friendly Portuguese had removed the buoys, which he had depended upon to guide him through those dangerous waters. The gunboats that had been lying beyond the mouth of the harbor for five days were advised of Loesch's sailing. But that night a gale came on, and the Spaniards, not accustomed to Yankee enterprise under pressure, relaxed their vigilance. This was what Loesch had calculated on. At nightfall he pulled out under reefed sails and stood to the westward for forty miles, in order to give any watchers that might be on guard the impression that he was bound for the States. This move put the enemy off the track, as Loesch afterwards learned. They, knowing that he had not sufficient provisions to bring him home, reckoned that he would make for the Azores. Consequently, when the gale abated they started in pursuit—as they thought—in that direction. Loesch, however, had hauled to the northward, and was now making for Cape Finisterre.

The first night in the Bay ot Biscay, a little after four bells, a gunboat approached Fleur-de-Lys and attempted to scrutinize her by means of a searchlight. But it was blowing a living gale, and the great seas rolled both vessels so violently that the enemy could not make out the yacht's name, and was compelled to abandon the attempt. In the morning the yacht, now running under single reefed foresail only, made for the mouth of the Gironde. The gale still continued, and the violence of the seas made it impossible for Loesch to heave his vessel to. In vain he looked for a pilot, but none could come aboard in such weather. His only course was to put Fleur-de-Lys over the bar or go ashore. So he climbed into the rigging and, from a point of vantage, with a practiced eye picked out the deepest water. At times they fancied they could feel her touch as she fell into the trough of the sea, but the next roller bumped her along through the boiling sands and water.

Presently she floated into quiet waters with half a foot of sand on her deck. They anchored her off Royan, and next day towed to Bordeaux, where they found the people even less hospitable than those of Lisbon. Here they lay five days, and presently being joined by the owner and his guests, they made for the English Channel, where they cruised about without fear of Spanish gunboats.

Knots

By WILLIAM E. PARTRIDGE

Photographs by Edwin Levick

THERE are some knots still on the list about which the amateur likes to know, though he may never have occasion to make them. The knowledge that he understands them is in itself a satisfaction. In Figure 1 we have one of these knots. It comes down to us from the days of hemp-standing rigging. It is the shroud knot, and was used when the shrouds were carried away by shot. A splice in such stiff, heavy ropes as the shrouds was probably out of the question; it certainly was when the shrouds were in place. So when they had to be joined this form of knot was used. The ends of the ropes are opened, brought together and interlocked, and then the strands of each rope are walled about the ends of the opposite rope. Next, the ends are scraped and trimmed so that each one is brought to a point. They are then laid in the scores of the main rope and carefully served, as shown in the lower half of the picture. Then the upper ends are scraped and trimmed in the same way, laid down and served. The finished knot then has a tapered piece above and below that position of the knot which shows.

Fig. 1.—Shroud Knot. The center shows the knot finished. The ends are scraped to a point, laid flat upon the body of the rope and marled down.

The Matthew Walker is a knot which is to be found in all of the books. Nobody appears to know who gave it the name, nor the reason for it. It may be a corruption of some half-understood term, or it may be the name of the inventor. In a

three-stranded rope it looks like a rope with three strands wrapped about it, each strand diving to the centre. See Figure 2. In making this knot the rope is unlaid, that is, untwisted, to the point where the knot is to be, the knot made and the rope twisted up again. When a rope is handled with care it can be unlaid and twisted up again, or more correctly, laid up again, just as it was before. In making a knot the rope is, of course, shortened. The core, seen sticking out at one end, shows just how much was lost in the knot. How to make the knot is one of the questions that has puzzled the bookmakers for fifty years. It is not very hard to make, but the words to tell how it is done get snarled and no artist has been able to show all the ins and outs without getting his brains and his pencil tangled. Fortunately, the photograph is not tangled to any extent. In Figure 3 we have the three strands of a rope represented by these smooth-braided lines. Each strand comes up from the rope, goes down, around outside of the other two and comes up through its own bight, or loop. Now, when these are all drawn taut and each part worked down into place, there will be strands running around the rope symmetrically and coming up through the centre in such a way that they can readily be combined and laid up into a rope. Sometimes this rope is only an inch or two long and is served to prevent unlaying; or it may be a rope of any desired length. If one really wishes to learn the knot it is best to take a piece of tarred rope of three strands and as large as the little finger, unlay it for eight or ten inches, whip the ends of the strands and of the rope itself, tie a bit of string about the rope to prevent it from unlaying further, and, with the cut before him, experiment. If there is a sailor at hand the case is different and in half the time needed for the self-taught system the whole method of making the knot can be learned.

Fig. 2.—The Matthew Walker in the middle of a rope. The projecting core shows the amount of rope that was needed to make the knot.

Fig. 4.—A Matthew Walker knot in another form, made with three strands of braided rope, showing how the strands are laid. Not drawn tight.

Fig. 3.—The Matthew Walker knot in a three-stranded rope in process of formation, left open to show how the strands are interlaced.

But the Matthew Walker can be made with a four-stranded rope, and is then a sort of double affair. How its turns appear when finished is shown in Figure 5. Here the turns run spirally about the rope and form a cylindrical mass. By some this is called a double Matthew Walker. It is neat and effective. The single knot has the same appearance, but instead of showing four strands of rope encircling the main rope there are but three.

The method of carrying the ends down, around and up through the loops is different. For the double knot the strand is taken up from the center, down around the other strands and then up, not through its own loop, but through the one next beyond. See Figure 6, and compare it with Figure 3, where each strand comes up finally through its own loop. The single knot of this kind made in four-stranded rope differs from that in three-stranded only in the point at which it comes up. It comes up in the centre, goes out and over in the direction of the lay under the other loops, coming up through them as it turns, and finally comes up through the loop made by the strand next its own part, but not the one next beyond, as in the double Matthew Walker.

Perhaps the best method of getting an insight into these knots is to bring the strands up between the knees and then bend the ends around so as to circle the central rope. Then taking each end by itself it can be taken down, around, under and up through the loops that are to be, with small danger of making mistakes. Of all the knots shown in works on navigation and naval science this is the one which seems to be most difficult for the beginner to understand, and one which he must puzzle out by himself. But once mastered it will be found that it is of great assistance in that it gives one an insight into the science of knot-making, which will stand him in good stead.

Fig. 5.—The Matthew Walker in a four-stranded rope, the parts drawn taut. Braided cord is used to represent the strands. The parts above and below the knot are supposed to be twisted into a rope.

With this we will leave the subject of knots, for the present at least, and take up some subjects in connection with ropes which, we hope, will prove even more interesting.

I refer to the splices. There is probable nothing connected with the handling of ropes that is as of much practical value as splicing. The yachtsman is constantly called upon to splice, and should be in a position to do it himself. This will be taken up in subsequent issues, and a full description of the various splices will be given, with every step illustrated, so that they may be easily mastered.

We have devoted considerable space to the making of the Matthew Walker knot, because in all of our reading we have never come across an intelligible discription of it, nor seen cuts that could be understood; while the knot itself may not be used often, it is of value in getting at the theory of knot-making. We are indebted to the following for assistance in preparing these articles: D. Van Nostrand and Co., Smith and Snelling and Maine Manufacturing and Supply Co.

EDITOR.

Fig. 6.—The double Matthew Walker. The knot is opened to show as far as possible the method in which the strands are interwoven.

Fig. 7.—Illustrates several methods of taking the looped strands around the rope and through each other when making the Matthew Walker.

Fig. 8.—A Matthew Walker. Made with four braided cotton ropes, twisted to represent a four-stranded rope. The knot is left open.

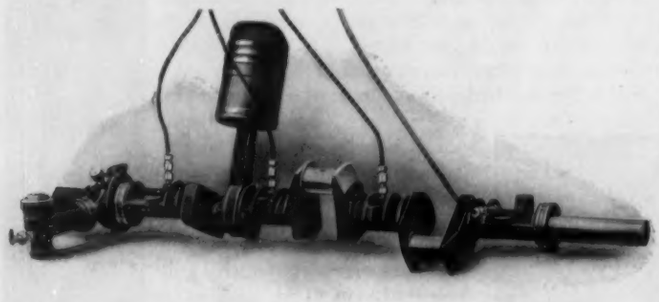
Modern Lubricating Systems

VARIOUS METHODS BY WHICH HIGH-SPEED AND LOW-SPEED MOTORS MAY BE LUBRICATED—THE IMPORTANCE OF LUBRICATION OFTEN UNDERESTIMATED BY THE NOVICE

By E. T. KEYSER

Illustrations and Diagrams by Courtesy of Ferro Machine & Foundry Company, Sherwood Manufacturing Company, and the William Powell Company.

AMONG the gentle peculiarities of the gasolene motor are its excessive appetite for lubricants and its epicurean taste in the quality thereof. When the internal-combustion engine commenced to contest and, in the smaller craft, usurped the place of the steam engine, marine engineers who



No. 1.—A crankshaft, showing oil tubes that carry lubrication to bearings.

had become thoroughly accustomed to all the idiosyncrasies of the steam power plant discovered that the gasolene engine was possessed of another set distinctively its own. Prominent among these is the peculiar need of the gasolene motor for particular grades of oil, furnished in particular quantities.

An oil that would do exceedingly well for the lubrication of the cylinder of a steam engine would not last any time at all in the cylinder of a gasolene motor. As a matter of fact, a gasolene motor lubricated with steam engine cylinder oil would not be blest with any great length of days, for the conditions to be met in the two types of power differ vastly. In the cylinder of a steam engine the temperature can never rise beyond that of the steam itself, and the moisture of the steam, mixing with the lubricant, carries it readily to all parts where its service is needed.

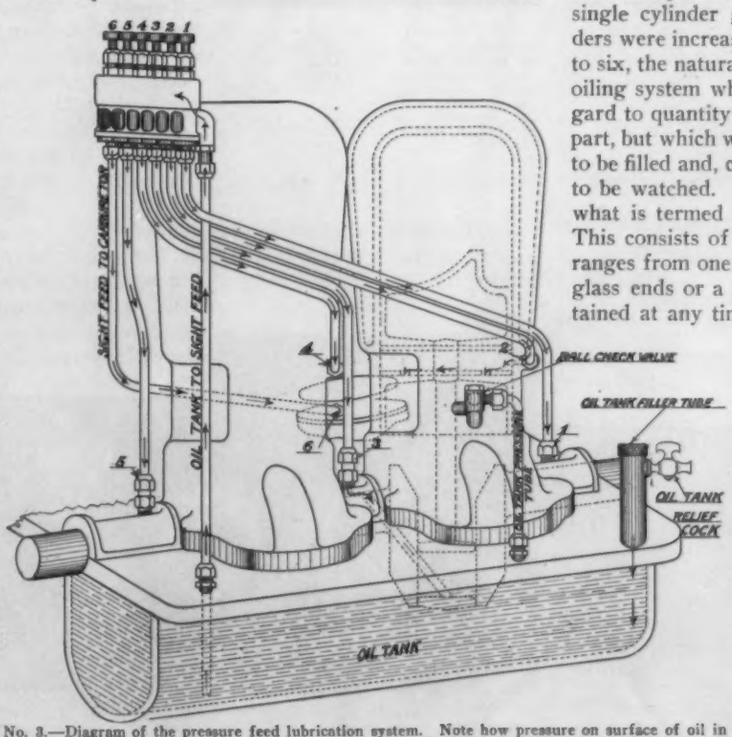
The temperature inside of a gasolene motor cylinder, on the other hand, not only runs exceedingly high, but is almost an absolutely dry heat, which, in the space of a very few revolutions of the engine, would reduce ordinary lubricating oils to a residue of clogging carbon. It is for this reason that a lubricant intended for use in the cylinder of a gasolene motor is comparatively volatile, and is a compound which may be vaporized without leaving an undue residue in the shape of carbon.

The ideal lubricant, therefore, is that which will, without losing its lubricating qualities, stand the high, dry temperature of the burning gas, and be carried, by means of the grooves in the piston, to all points of the interior of the cylinder bore.

Given the proper form of lubricant, the manufacturers of the gasolene motor are facing another proposition quite as important, i. e., the proper method of supplying just enough (neither too much nor too little) lubricant at the right speed, at the right time, and in the right way.

In the early days of the comparatively low-powered, low-speed motor, when the revolutions per minute did not run much beyond 400, an ordinary sight-feed oil cup, with an adjustable regulator for supplying a certain number of drops per minute, was ample for the interior lubrication of the cylinder. This was directly connected with a pipe leading to the interior of the cylinder, and so placed that as the piston passed it at each stroke it caught a small portion of the lubricant, and by means of channels cut in the piston surface, or holes bored through it, or a combination of both, carried the oil to all parts of the inside cylinder walls.

In the single-cylinder motors the work of watching the supply in the reservoir of the oil cup was not unduly great; but when a single cylinder grew to two, and two cylinders were increased to three, and then upwards to six, the natural evolution was in favor of an oiling system which might be regulated in regard to quantity per minute for any particular part, but which would require but one reservoir to be filled and, consequently, but one reservoir to be watched. The outcome, therefore, was what is termed the sight-feed, multiple oiler. This consists of a tank, the capacity of which ranges from one pint to one gallon, with either glass ends or a gage, so that the supply contained at any time may be noted. From this tank runs a series of lubricating tubes ending at the various bearings to be lubricated. The lubricant passes into each of these tubes through a sight-feed regulator, by which the quantity of oil delivered by it may be individually regulated, and which allows the engineer to observe just how the oil is feeding. It is a great convenience, but is open to the objection that, on stopping the engine, it is necessary to shut off the supply of oil at each lubricating tube, which,



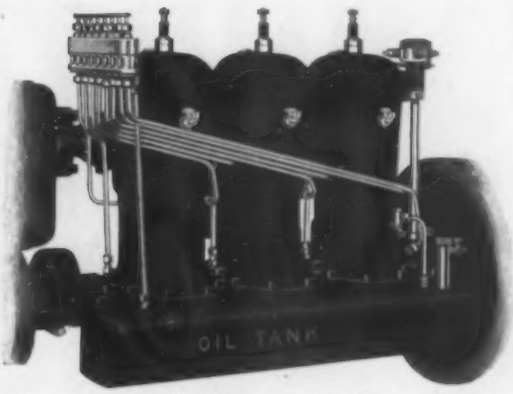
No. 3.—Diagram of the pressure feed lubrication system. Note how pressure on surface of oil in tank pushes it up through sight feed supply pipe.

otherwise, would simply flood parts of the engine.

An improvement on this is the force-feed, the multiple oiler by which the oil, instead of being fed by gravity, is forced through the lubricating tubes by means of pressure taken from the engine itself.

In this latter system the supply through each particular pipe may be regulated to any desired quantity per minute; but as soon as the engine stops the pressure ceases, and, with it, the flow of the lubricant.

This does away with the necessity of stopping the flow of each individual lubricating tube when coming to a stop. A further advantage of this system lies in the fact that the greater the pressure supplied, the more rapid is the flow of the lubricant; and as the pressure on the oil reservoir is increased in direct proportion to the speed of the engine, and the greater speed of the motor, the greater amount of lubricant required, it will be seen how such a system automatically meets a need which was not felt in the earlier days of comparatively low-powered, slow-speed engines, when revolutions did not greatly exceed 500 per minute. In some types of the force-feed oiler the oil feed is created by a pump connected with the engine instead of by the direct pressure of the gas from the crank-case. The former system is better adapted to a two-cycle motor and the latter to a four-cycle motor. A recent type of the four-cycle engine uses a system of closed circulation by which all parts except the pistons are constantly flooded with oil, which is supplied to them by a gear pump taking oil through a strainer from the bottom of an oil well located underneath the crank-case. After flooding all the bearings the oil drains back into the oil well from which it is taken, so that, theoretically, the only loss of lubricant is that which is consumed in the cylinders. Practically, of course, there is more or less waste.



No. 2.—A system utilizing pressure from engine to supply reservoir with oil. From there it is distributed through the oil tubes to the parts to be lubricated.

No. 4.—A piston with hollow pin, through which oil flows to opposite wall of cylinder, and groove which spreads the lubricant.

No. 5.—Sight feed cylinder oiler which supplies oil by gravity at any required number of drops per minute, but which must be cut off when engine stops, to prevent flooding.

The sight-feed lubricators are usually attached to the engine. This is generally the case when the engine occupies the center or after portion of the cockpit, or when it is placed in the engine room of the cabin craft where it can be easily reached and watched. In the particular type of modern runabout, however, in which the engine is stowed forward, underneath a cockpit hatch, the control of the lubricating system is usually placed on the after end of the bulkhead separating the engine space from the cockpit proper. This is practically adapting the automobile type of lubrication to marine use.

The method by which the lubrication is evenly applied to all interior portions of the cylinder walls varies in minor details, but the principle which has been evolved is pretty much the same in all types.

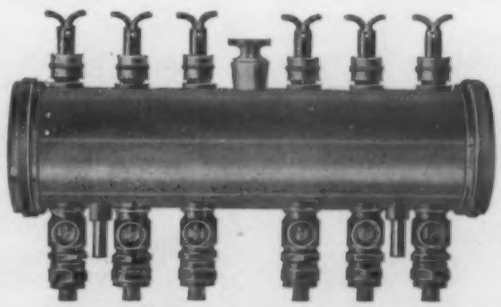
A wrist pin is bored from end to end with a large hole. This hole picks up the oil as it passes the oil duct, and carries part of the lubricant with it to the opposite side of the piston. This oil is collected in the oil grooves shown on the piston and thence distributed to every portion of wall of the cylinder.

Not content with the system of distributing the oil from the sight-feeders to the different shaft bearings, many motors have also an auxiliary splash system.

In fact, the splash system was at one time the method relied upon for the lubrication of all interior bearings on the crankshaft. This is a simple method, and may be relied upon to furnish lubrication without any regard to pressure; and it is often used, even to-day, as an assurance against trouble should anything go wrong with the forced-feed apparatus. It consist of a "splasher," or dipper, attached to the crankshaft, which, on each revolution, dips below the surface of the oil tank in the base of the engine, and, on rising, throws the oil over the bearings by centrifugal force, and at the same time carries the lubricant internally to the proper bearings by means of drilled ducts.

For lubricating the shaft bearings with "dope"—which is a mixture of lubricating oil and grease—grease cups are used. A lubricant of the consistency of this "dope" cannot be fed by gravity, but always relies for its proper application on a forced feed. This force is applied by a screw plunger feed, by means of which a tightly-fitting disk attached to an outside handle is screwed down on the surface of the lubricant. This makes it necessary for the engineer to keep a close watch and give it a turn, or the fraction of a turn, at intervals, depending upon the speed at which the motor is running. Another pattern which relieves the engineer of this constant watchfulness is a compression grease cup, in which the grease is followed up by a spring piston, which has enough force to feed the lubricant at the bearing as quickly as it is consumed. This gives very satisfactory results.

No. 6.—Pressure sight feed cylinder oiler. This can be adjusted to feed any desired number of drops per minute. When engine stops the flow of lubricant ceases automatically.



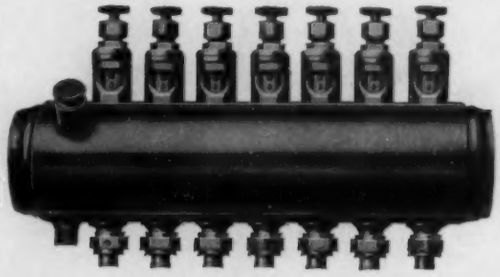
No. 7.—Gravity sight feed multiple oiler. This operates on the same principal as No. 5. It simply focuses the supply regulation at one point, and uses but one tank.

These systems, as previously described, are all good; each has a field of usefulness, and it is simply the circumstances under which they are used and the service which is required that govern the choice of them.

Broadly speaking, a single cylinder, two-cycle engine from the smallest size to less than 5 horsepower would be most simply lubricated under general conditions by a sight-feed oiler directly attached to the cylinder for the purpose of interior cylinder lubrication. A pair of spring or hand-actuated grease cups for feeding

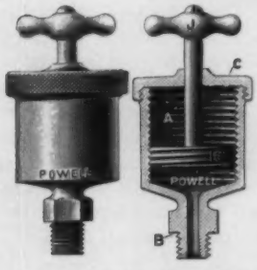
"dope" to the shaft bearings will serve the purpose admirably, and if one wishes simplicity, this outfit will certainly give it to him, and will require but little care or attention.

On the other hand, if there is to be installed a double-cylinder, two-cycle motor of 5 or more horse-power, one of the sight-feed oilers with two oil ducts, one for each cylinder, and compression cups for dope, will, on a low-speed engine, prove satisfactory. For a larger horse-power motor, say 7½ horse-power and upwards, or one of three or more cylinders, an oiler of the tank sight-feed gravity system will be better adapted for a low-speed, and of the pressure-feed tank system for high speed.



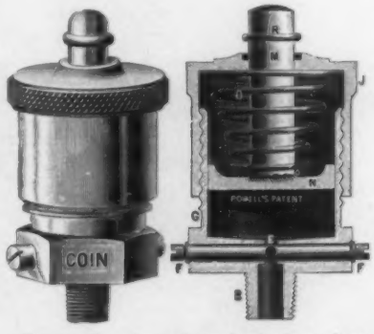
No. 8.—Pressure sight feed multiple oiler. This is No. 6 carried out to a multiple system wherein the pressure is applied to one large tank which serves several regulated supply pipes with lubricant.

Theoretically, of course, the system by which the lubricant is fed by means of either pressure or by a force pump is nearer perfection, because the quantity of lubricant automatically varies with the speed of the engine, and also because it ceases its flow when the engine is stopped. Sometimes, however, the extra cost of force system, oil tubes, etc., is rather out of proportion on a small, low-powered, low-priced, one or two-cylinder engine, on which there would be only one or two oil cups to watch and a couple of grease distributors to be kept in mind. The concentration of the entire lubrication system of a multi-cylinder, high-speed engine in one place, however, is a great convenience.



No. 10.—Exterior and sectional view of grease cup with hand-operated screw plunger for forcing lubricant on to bearings.

So much for the two-cycle motor. With a four-cycle engine, the matter of lubrication is less open to the choice of the purchaser. Every four-cycle engine manufacturer has so built his motor as to give the best results with some particular system of lubrication, kept in view when the engine itself was constructed; and while it is possible, and even practicable, to modify this in minor details, there are but few instances in which it could be radically changed with advantage. With the two-cycle motor, on the other hand, the skipper who goes in for extreme simplicity may, later on, decide that he wants something a trifle more elaborate, and be willing to sacrifice this simplicity for the sake of increased oil reservoir capacity, or the doing away with close attention to his regulators. In such case he may install one of the many types of reservoir lubricators in place of his glass cylinder feeds, or utilize a miniature force-feed lubrication for his cylinder; and the beauty of the situation lies in the fact that any particular style or system which does not take pressure from the base of the engine may be obtained and installed separately.



No. 9.—Exterior and sectional view of an automatic spring grease cup, by which "dope" is fed to shaft bearings. Notice spring "O," by which plunger disc "n" is forced down on supply of lubricant in reservoir.

A Study of Bows and Sterns

By FREDERICK W. GOELLER, JR.

WHILE in designing a boat every part of the hull must be taken into consideration, the form of entrance (the bow) and the run, ending at the stern, enter most largely into the calculations for speed and seaworthiness, especially in power boats. Moreover, in designing a yacht a naval architect must know the conditions of the locality in which the boat is to sail, in order to turn out one best suited for these conditions.

There are three lines which govern the form of the forward sections of any boat. They are: the profile; the shape of the deck line forward, and the waterline.

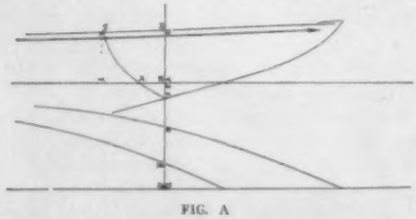


FIG. A

In plate A is shown the process by which all sections are found. The profile and sheer line to meet the requirements are drawn, and then the deck and waterlines. There is no fixed rule for any of these lines. A line, or lines, are now drawn in, perpendicular to the waterline, at which stations the shape is to be found. These stations are usually spaced an equal distance apart.

The shape is now found by marking the distance *a b*, this being the distance (on the lines) from the center line to where the station crosses the waterline on the profile. The same with *c a e f* is the length of the station below the water line to where it meets the profile. *X Y* is the height of the station at the deck, and is marked up from the waterline at the distance *e d* from the station line. Then through these points, *C' A' F*, is drawn a fair curve. It will be seen from this how the section may be changed. By making the deck line narrower the sides are made straighter, or by making the waterline finer the section is given more flare. These sections are usually drawn about one center line, generally the midship station.

Figure 1 shows the type of bow on the old-time sailing yachts, clipper ships and pilot boats. It is also the style used on most steam yachts. There are still many yachtsmen who prefer it to the more modern spoon bow, and examples of it are to be seen in most yachting centers.

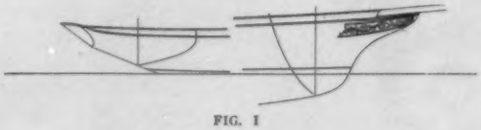


FIG. 1

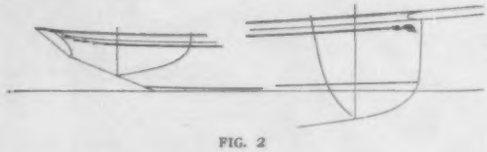


FIG. 2

The deck line is usually kept full, with the waterline slightly hollow forward, making a section with considerable flare. This is the best section for seagoing purposes, having a large amount of buoyancy above the waterline, and the form being of such a shape as to throw the water out and away when plunging into a sea instead of letting it come on deck.

The stern is the regulation yacht stern, although in the older examples of this type of boat the transom was usually made much

FIG. 3

deeper, sometimes coming right down to the water, with a considerable dead rise to the after sections.

Figure 2 shows the plumb stem style. The Puritan and Mayflower are examples of boats with this type of stem. Up to the advent of the spoon bow there were only these two styles, and many of the latter are still seen among the smaller classes everywhere. The old sand-baggers were also notable examples of this style, usually having both plumb stem and stern. In some cases I have seen the stem has raked aft, these boats having been built when only the waterline was measured. As a rule, the sections

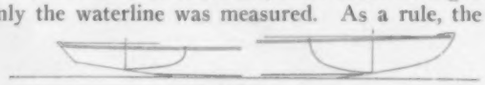


FIG. 4

forward are nearly straight-sided, due in a large measure to the small difference between the deck and waterline.

No. 3 is the type of bow and stern on the first boats of more modern design. The overhangs are noticeably short, with generous freeboard, flaring sections forward, and good, dead rise to the after sections.

This type of boat makes the best cruisers, and is becoming popular again to those yachtsmen who want comfort below deck and seaworthiness rather than speed. Ocean-racing, due to the success of the New-York-to-Burmuda and the Pacific Coast long-

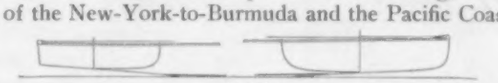


FIG. 5

distance races, has become a fixture, and it is this type of boat which is most suitable for such work.

The boats developed under the Universal Rule are somewhat similar to this, the only difference being that the overhangs are drawn out a little finer and the sections are somewhat sharper. That this class has produced good, all-around boats is illustrated by the performance of the New York thirties, Class Q boats, and, in fact, all boats built to this rule.

No. 4 shows a common type for day sailing and racing. Here the ends are longer drawn out, giving straighter sailing lines and making a faster all-around boat.

These boats were first developed around Boston, but to-day are to be found almost everywhere throughout the world. They make excellent boats where conditions are such that large seas are not encountered.

Fig. 5 represents the most extreme type of sailboat. Here the ends are extremely long, in some cases the over-all length being twice the waterline. The sections, both forward and aft,

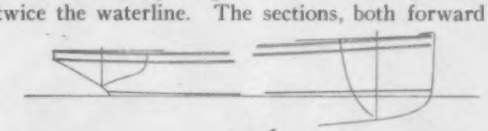


FIG. 6

are very flat, giving long, easy sailing lines when the boat is heeled, and considerably lengthening the waterline.

While these boats are undoubtedly fast—faster, in fact, than any other type—they are really only suited for smooth water. Yet on the Great Lakes, and especially around Chicago, where the 21-foot class has been developed into the above type, steep, nasty seas are encountered, and the class is still growing.

No. 6 is the old-style launch with low freeboard, plumb stem and fantail stern. The sections forward were usually straight-sided, with little or no reserve buoyancy—a feature necessary as much, or more, in power than in sailboats, for a sailboat seldom plunges head-on into a sea (usually taking it on one bow or the

FIG. 7

other), while a power boat is very often driven squarely into it. The stern ran up so sharply as to leave little buoyancy to counteract the lifting forward when driven hard, a defect which caused it to squat and make a following wave, which, as naval architects have found, retards the speed.

No. 7 was the style next developed. The bow here is somewhat similar to No. 6, but was generally given more flare in the

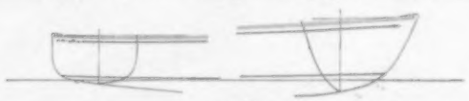


FIG. 8

forward sections. The stern resembles the sailboat stern, except that the transom is deeper, with only a short overhang.

In Figure 8 is shown the next development. There the stem is raked forward and the sections at the bow show considerable flare. This is undoubtedly one of the best styles of bows for a power boat, being dry in a seaway and having good lifting power. The stern—popularly called the canoe stern—is also a good type for a power boat, the after sections being sufficiently

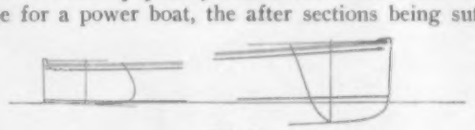


FIG. 9

flat to prevent squatting, and the whole ending in such a manner as to leave a good, clean wake.

No. 9 shows a bow somewhat similar to both 6 and 7, though with considerable flare, which throws the water out and away in a heavy sea. The stern differs in being very flat, ending abruptly with the transom plumb and reaching down to the water's edge. At slow speeds this style of stern drags considerably, and a chip dropped in the wake close to the transom will often follow for quite a distance. At high speeds, however, it is very efficient, does not squat, and leaves a smooth, clean wake.

Cruising power boats very often have ends like these, in some instances the stem and sides being carried up from 6 inches to a foot at the forward end and forming the sides of the cabin, the deck making the roof.

No. 10 shows the extreme speed boat. The most successful

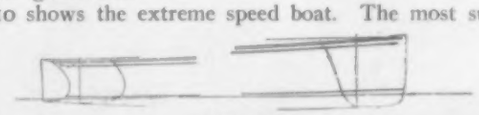
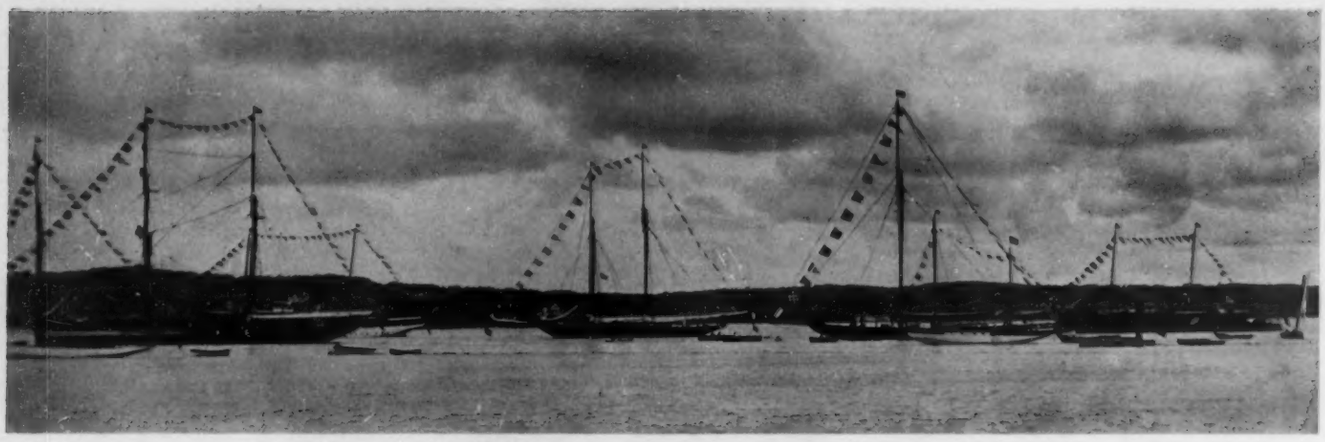


FIG. 10

ones have straight stems, though—other things being equal—the shape of the stem above the waterline is largely a matter of taste. Here also may be noticed the decided flare to the forward sections, in most cases it being more pronounced than in Figure 9.

In this illustration is shown one of the most popular styles of stern. The transom is V-shaped, the center line sometimes being an inch or so below the waterline when the boat is at rest. This allows a straighter keel, the long, easy lines being as necessary in a speed boat as in a sailboat. At high speed the wake is clean and smooth.

At extreme high speeds—above 20 miles an hour—the shape of the stern makes little difference, except that the sections aft must have enough buoyancy to prevent squatting.



Flag Etiquette

By WARREN HAPGOOD

IN learning to sail or operate a motor boat the corinthian naturally neglects many of the minor things connected with the sport. He feels that when he knows the carburetor from a spark plug, when he can get on his hands and knees and bring a balky engine to reason, or in the case of a sail boat, when he is fairly familiar with problems involved in sailing to windward, jibing and the like, that he has done enough for one or two seasons at least.

Well, so he has. A man who is able to diagnose an engine ailment, or to keep a windjammer right side up with care, blow high or blow low, is a pretty capable citizen, and far be it from me to say that lack of knowledge as to the finer points of nautical procedure, custom, or tradition withholds from the amateur yachtsman the right to hitch his trousers with his left elbow or to roll as he walks along highways and byways ashore.

And yet none will deny that proficiency in little things is the mark of high qualification in bigger things. For our part the fact that a yachtsman is careful as to his dress, is ceremonious in his reception of visitors aboard, or is watchful as to the condition of his deck and the things thereon, inclines us in his favor, and argues to our mind the fact that he is a skipper to be trusted in any one of the various emergencies which confront a man from time to time in the course of his wanderings over bay, ocean or river.

Now there is the question of flags. Flags sometimes play an important part in the conduct of a boat, and if you have ever felt obliged to signal for assistance, or to inform some distant yacht as to your name and the name of your boat you will, if you have neglected to gather information as to this adjunct of the game, find yourself in an embarrassing if not dangerous position.

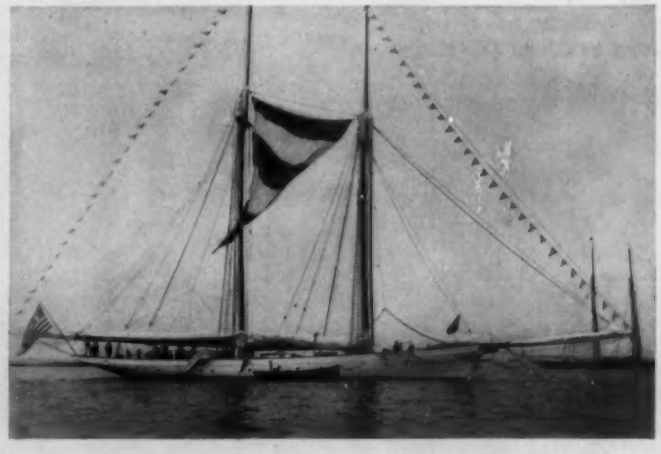
Conversely, the fact that you are in a proud position to make the necessary signals properly, and to understand whether or not the man on the other boat is returning his answers properly, cannot fail to afford you the greatest satisfaction. Apart from signals, it is a good thing to know how to fly your ensign, your private signal or your club burgee. Not all yachtsmen know this; sometimes in cruising about we have come to the conclusion that a great number of amateur tars, otherwise proficient, are wofully ignorant on this point.

I have in my hand a query which is very much to the point. A young sailor asks how an ensign should be placed on a boat. Now, it does not appear whether he is a sail boatman or a motor boatman, but whichever he is, it shows that he desires to learn the fine points of the game, and to take his stand among those who are proficient in the various ramifications of the sport in which he is engaged.

The first answer to his question is that it depends upon the boat. Assuming that it is a catboat, fly the flag from the main peak. The same applies to a sloop. In the case of a yawl, fly the ensign from the jigger mast head or peak, and in a schooner the ensign should be flown from the main peak. On a steamship, fly the ensign from the taff-rail flagstaff. In the case of a launch it should depend from the stern staff, and the same may be said in the case of a gig.

So far, so good. But there are other flags besides an ensign. There are the owner's pennant, club burgee and the like. How about them? Some time ago attention was called to the fact that a certain well-known motor yacht had been seen by shellbacks flying three flags on the one mast of which it boasted. At the top was the club burgee, next was a flag denoting the owner's rank in a motor boat club, a rank so high that one would have fancied the yachtsman knew better, and below this was the owner's private signal. Now, this man had made about as many mistakes in his display of bunting as was possible. In the first place his private signal was not necessary, since the flag denoting his rank was flying above his craft. But even the flag denoting rank should not have been placed on the same hoist with his club burgee.

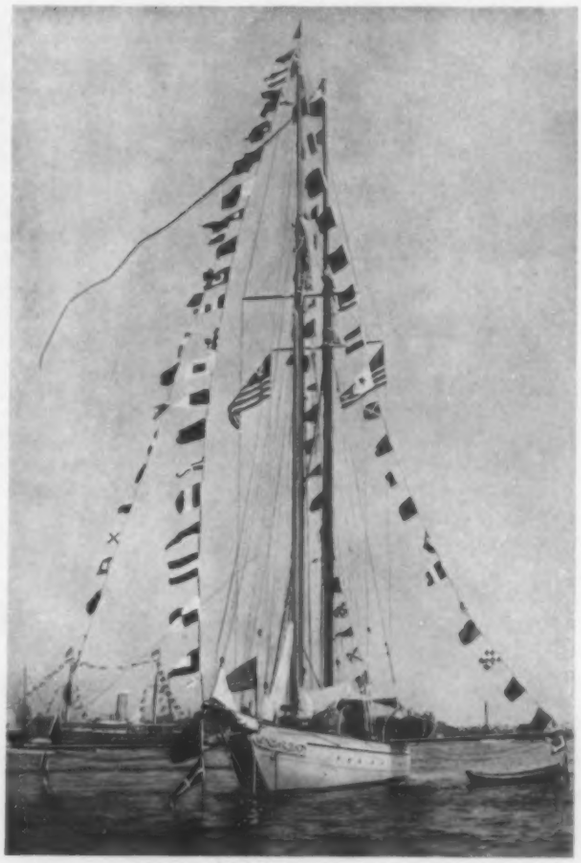
Of course, he had the excuse of having but one spar, but he



SACHEM, FORMER FLAGSHIP OF LARCHMONT YACHT CLUB, "DRESSED" DURING RACE WEEK ENTIRELY WITH THE CLUB'S BURGEE, WHILE A HUGE ONE FLIES FROM THE SPRING STAY.

should have added a small staff on the highest point of his yacht, and placed thereon the flag of his rank. A burgee is the flag which denotes the club to which the man belongs. When a yacht is in commission, the owner's private signal and the burgee should be flown at all times between colors and sunset. On a schooner the club burgee is flown from the fore truck and the private signal from the main truck. On a schooner, the American yachting ensign is flown from the taffrail staff when at anchor, and when she is under way the ensign is displayed from the main peak in the case of a two-masted schooner. In the case of a three-masted schooner, such as Commodore Marshall's Atlantic, the ensign, when she is under way, is displayed from the mizzen peak.

The sloop presents more of a problem in the way of proper display of flags. When under way, the owner should fly his signal at the main truck, but when he comes to anchor, this signal should be hauled down and the burgee of the club substituted. Officers of a yacht club are not subject to this rule and may fly at all times the flags which denote their rank.



SCHOONER YACHT "DRESSED" FOR A HOLIDAY, WITH JACK FLYING FROM STAFF IN BOW AND WINNER'S PENNANT FROM MAIN TRUCK.

An American citizen, whether he belongs to a yacht club or not, is entitled to fly the American yachting ensign. This is a beautiful flag, and resembles Old Glory in every respect save that it has on the blue canton a fouled anchor with a circle of thirteen stars around it. This flag has been in use for about sixty-five years, and is sanctioned by the government.

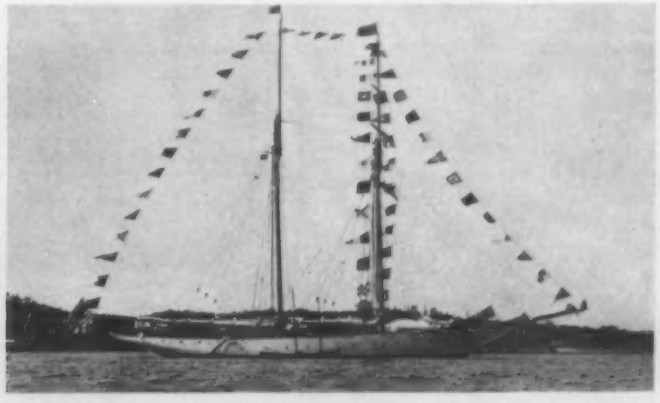
Every yacht when at anchor should fly this flag astern. The ceremony of colors is most impressive, especially on a cruise like that of the New York Yacht Club. It is worth while arising in time to be at the water front at eight o'clock, the hour at which "colors" is signaled, at some port where the squadron, consisting of more than three hundred sail and steam yachts, is anchored. Shortly before the time for the signal sailors are seen standing rigidly on the decks of all the yachts. Suddenly a gun booms from the flagship, and as though a rainbow had suddenly burst and scattered its fragments among the fleet, the hundreds of fluttering bits of color go flying aloft.

Absent pennant, meal flags and the like sometimes cause much worry to the yachtsman who attends to his own flags. When he is not aboard his boat a blue, oblong flag should be flown from the main starboard spreader. At night, if he is still ashore, a blue light should replace the absent pennant. As soon as an owner steps from his craft, this flag or light should be displayed, and the minute his foot is on deck upon his return, the flag or light should immediately come down. There was once a small-boat yachtsman who insisted that every time he sat at breakfast, dinner or supper the white meal pennant should be flown. His friends used to laugh at him for thus imitating the practice of larger yachts, but nevertheless this man was in the right. He had as much right to fly his square, white meal pennant from the starboard spreader as the owner of the largest steam yacht in the harbor, and the adherence to the strict letter of nautical punctilio showed him to be the good skipper he was. The punctilious flag officer sets his burgee in the bow of his launch upon entering that craft from his yacht. The ordinary club member should fly the burgee in the launch's bow when he enters it.

When the owner dines at night there should be a white lantern instead of a white flag, and when the crew is at table a triangular red flag instead of the white flag is flown at port spreader, or a red lantern instead of the white lantern should be displayed.

(Continued on page 332.)

LAUNCH, WITH SIGNAL MAST AND YARD FOR THE DISPLAY OF FLAGS. THE YARD ARMS ALLOW THE DISPLAY OF BURGEE AND NUMEROUS PENNANTS.



SCHOONER THISTLE IN HAMILTON HARBOR, BERMUDA, SHOWING AT THE FORE THE FLAG OF THE COUNTRY VISITED AND AT THE MAIN SPREADERS THE ABSENCE FLAG.

How to Build a Thirteen-Foot Power Tender

PART II

By HOWARD A. PIKE

Diagrams by the Author

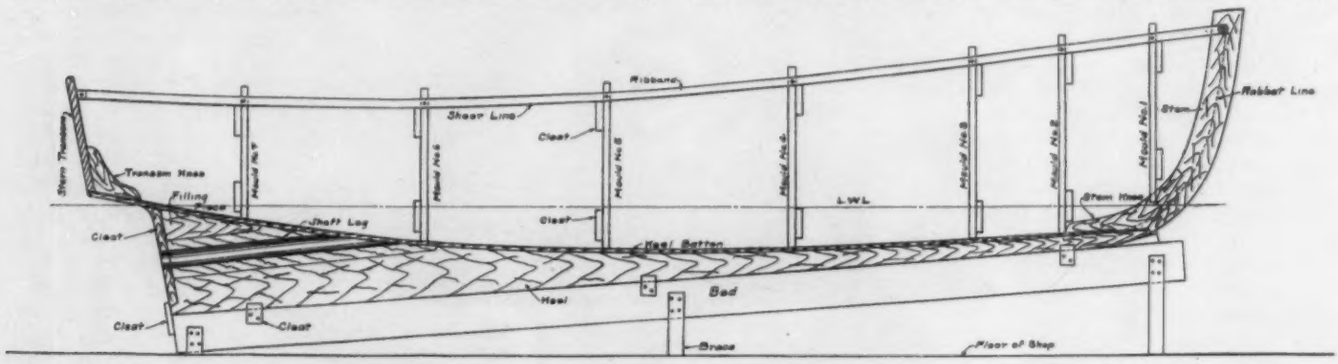
WE are now ready to get out the moulds, and for these get some three-quarters or seven-eighths inch stock (old boards will do), and placing it under the paper, punch holes with an awl or nail fairly close together on the line which represents the first line or station. Also punch holes for the sheer line, load waterline and centre line. Now remove the paper and, using a pencil, connect these holes in the board and cut out on this line.

After this piece has been carefully fitted to the line on the paper, a duplicate to it must be made and the two fastened together to make the complete mould. In putting the pieces together, care must be taken that the lower ends come together exactly on the centre line, and that the width across the top measures exactly double the half breadth, as shown on the "table of offsets," allowing, of course, the one-half inch for the planking. By referring to Figure 1 an idea can be obtained as to how the mould should look when put together. After all the moulds are completed lay them aside until the keel, stem, stern transom, shaft log, keel batten and the knees are turned out and set up.

For the keel we will take an oak plank one and one-half inches thick, and after making a full size paper pattern to the shape shown on the construction plan, place it on the plank and cut out. The stem and the stem knee are made in the same way and cut out of the same size stock. The transom is cut out of a wide oak board three-quarters of an inch thick, the pattern for this being made from the half-breadth plan. For the shaft log, get some oak two and one-half or three inches thick, and after cutting out and boring the holes for the shaft, shape it as shown on the cross-section drawing of shaft log in Figure 2.

The boring of the shaft hole requires considerable care, and the amateur may think it advisable to have this part of the work done for him, but if he has a long auger he can do it himself by marking the centre line along the side of the log and making guides for his auger, to insure the hole being true. The shaft hole is seven-eighths inch in diameter. For the keel batten an oak plank five-eighths of an inch thick should be used. The dimensions for getting it out are given in the specifications. When it is cut out and smoothed up, mark a heavy line down the centre on the top side, to use for a guide when setting up the moulds.

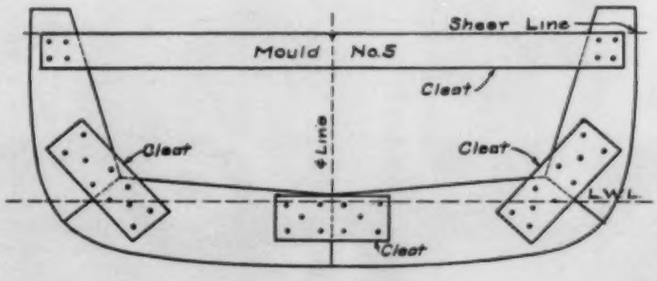
When these pieces are all cut out and fitted, the rabbet being cut in the stem, they are then fastened together with bolts and screws. When bolting into the shaft log, take care that the bolts do not run through or into the shaft hole. After all are fastened together properly, set it up on a plank the width and shape of the bottom of the keel, and high enough to raise the bottom of the boat a foot or more from the floor. The plank or bed must be set up perfectly straight and plumb, being firmly braced to hold it in position, with the forward end higher than the after end, so that the waterline of the boat will be level with the floor of the shop.



SETTING UP PLAN—MOULDS WITH TOP RIBBAND.

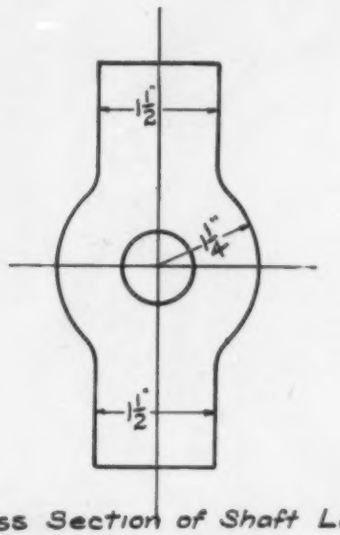
When this has been done and the keel plumbed up and firmly braced, we set the moulds in place. In doing this, start with the midship mould, which is number five, and work towards the ends, setting them up at their proper stations, which should have been marked before on the keel. Be sure and brace them in position so that they are square and level, and with their top centres in line exactly over the line on the keel batten.

After all have been set up in place, bend around on each side a stout ribband about fourteen feet long and one inch square, placing it so that its underside will correspond to the upper edge of the top strake of the planking. By referring to the setting-up plan an idea can be obtained as to how this part of the work is done. Now put in place four or five more ribbands down on each side and fasten to the moulds with screws and washers, roughly fitting their forward ends into the rabbet in the stem. When all are in place we are ready to commence the framing.



Construction of Mould
Figure No.1

Before bending in the frames or ribs, they must be steamed;

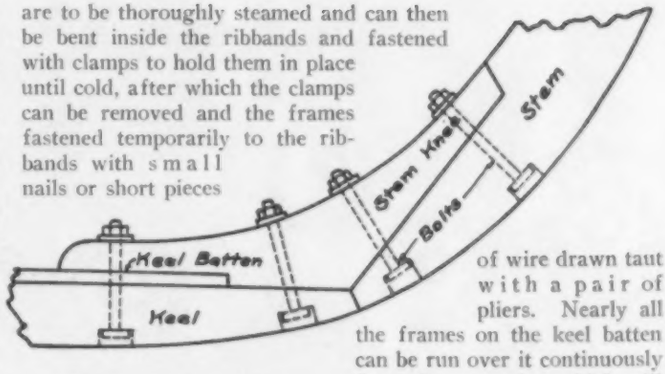


Cross Section of Shaft Log
Figure No. 2

so we will have to make a steam-box long enough to take the longest frame. A good and cheap idea is to make the box out of four old boards about eight feet long and twelve inches wide, put together with one end closed tight, the other end left open, so that it can, however, be stuffed with rags while the frames are cooking.

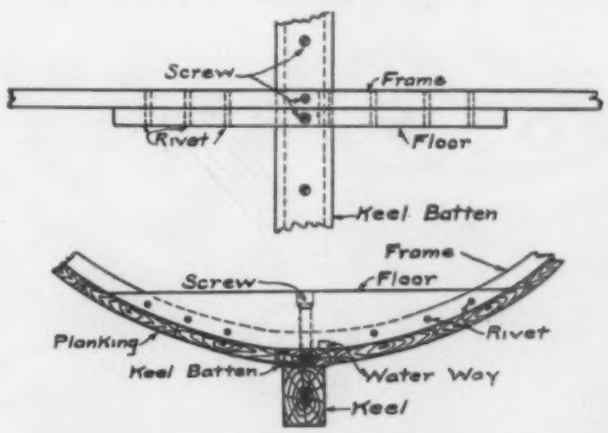
Now for something in which to make steam. Go down into the cellar or out to the wash shed and get that old rusty wash boiler that your mother refuses to use because it rusts the clothes. Take the cover off and punch two holes in it, one on each side of the handle, and solder a nipple about two inches long in each, the nipple being a little larger than the inside of a piece of common hose pipe. Then bore two holes in the bottom of the steam-box about three feet apart and drive in two more nipples the same size. If you have a two-burner oil stove, get it, place the wash boiler on top and connect the cover to the steam-box with two short pieces of hose pipe. Now put water in the boiler about three inches deep, light your stove, and in a short space of time there will be steam enough going up into the box to do the trick.

The frames must be of clear, tough white oak, dressed to five-eighths of an inch square. They are to be thoroughly steamed and can then be bent inside the ribbands and fastened with clamps to hold them in place until cold, after which the clamps can be removed and the frames fastened temporarily to the ribbands with small nails or short pieces of wire drawn taut with a pair of pliers. Nearly all the frames on the keel batten can be run over it continuously from the gunwales, which will make the construction much stronger. It will not be necessary to bevel many of the frames, as they can be twisted while hot with the steam to fit snugly against the ribbands. The frames are spaced six inches apart on centres, and when dry should be carefully fastened to the keel with one and one-quarter inch flat-head brass screws, the heads being countersunk.



Construction of Stem

The oak floors should be put in next and fastened to the keel with long brass screws, and to the frames with copper rivets, as shown in sketch, Figure 3. The engine bed is also put in at this time and is made of one and one-half or two-inch thick oak. The three cross-pieces are fastened to the keel with galvanized lag screws and riveted to the frames. The two runners are mortised and bolted through to the cross-pieces. The tops of the runners are to be in a line with the shaft, and spaced apart according to the width of the base of the engine to be installed. After this has been completed we will be ready to put on the planks.



Sketch Showing Floor
Figure No. 3

A great many amateurs are apt to be misled as to the task of planking a boat, but it is no more difficult than any other part of the work. The stock for the planks should be of cedar, or other suitable wood, clear and free from knots and sappy

TABLE OF OFFSETS – 13 FT. POWER TENDER.- DES. No. 184.

	Stations	No. 0	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	Stern
Heights Above Base	Sheer Line	3. 3. 0	3. 1. 5.	3. 0. 2.	2. 10. 4.	2. 8. 0.	2. 6. 0.	2. 5. 0.	2. 5. 0.	2. 6. 0.
	Rabbet		1. 2. 2.	0. 11. 4.	0. 11. 0.	0. 10. 2.	0. 10. 0.	0. 10. 6	1. 1. 5.	
	Keel Bottom		1. 0. 2.	0. 10. 0.	0. 9. 2.	0. 10. 4.	0. 5. 6.	0. 4. 0.	0. 2. 2.	
Half Breadths	Sheer Line		0. 6. 2.	1. 0. 2.	1. 5. 4.	1. 11. 3.	2. 1. 4.	2. 1. 2.	1. 10. 2.	1. 6. 2
	W.L.B Above		0. 4. 6.	0. 10. 6.	1. 4. 0.	1. 10. 7.	2. 1. 3.	2. 1. 2.	1. 10. 6.	1. 6. 6.
	W.L.A "		0. 3. 4.	0. 9. 2.	1. 2. 6.	1. 10. 2.	2. 1. 0.	2. 0. 6.	1. 10. 0.	1. 5. 2.
	Load Water Line		0. 1. 6.	0. 6. 2.	0. 11. 6.	1. 8. 4.	2. 0. 0.	1. 11. 2.	1. 7. 0.	
	W.L. No. 1 Below			0. 2. 6.	0. 6. 6.	1. 5. 0.	1. 9. 4.	1. 7. 6.		

Dimensions given in feet, inches & eights to outside of planking. Half Breadths measured from ℄ Line

THE LIFT OF THE SEA. . ILDICO II,

PRINT

CO II, IN THE OPEN, OUTSIDE OF CAPE COD.

INT IN BINDING

places, one-half inch thick, running the full length of the boat. As the boat is to be turned bottom up for putting on the planks we will first get out the top plank, or sheer strake, as it is called. To fit the sheer strake so that its top edge will meet the marks for same on the moulds, we must take a "spilling," which is done as follows: first, get a thin piece of stock a little longer than the boat and four or five inches wide, so that it can be bent and twisted into any shape or position on the boat. This board is called the "staff" and is clamped to the frames in about the position the plank to be put on is to occupy, the forward end being roughly fitted in the rabbet in the stem. Now, take a pair of compasses and set to a radius a little more than the greatest width between the staff and the sheer line and, starting at the bow, place one point of the compasses in the rabbet and with the other point sweep an arc on the staff. This is repeated at every mould along the sheer line by placing one point of the compasses on the mark on the mould and sweeping an arc on the staff. Before taking the staff off of the boat the position of three or four of the moulds must be marked on it so that when these marks are transferred to the plank they will act as a guide for getting the plank on in the right position.

The sheer strake is cut from an oak board one-half inch thick. Take the staff off of the boat and, after placing it on the oak board, secure it with a few small nails. Now, with the compasses set to the same radius as before, we will lay out the top edge of the sheer strake by using the arcs on the staff as a guide, as follows: place one point of the compasses on one end of the arc on the staff and make an arc on the plank; then, with the point on the other end of the arc on the staff, draw an arc intersecting the one just drawn on the plank. The intersection of these two lines is, of course, the centre from which the arc was first drawn. By transferring all the marks in this way we have a series of points through which a line is drawn by using a long batten, and we then have the top edge of the sheer strake marked out. The other edge is laid out by determining the width the plank should be at the different stations, after which this edge can be marked out by using a long batten to get a fair line.

The sheer strake should be about four inches wide at the centre, two and three-quarters inches wide at the bow and three inches at the stern. After the plank is sawed out and the edges faired up with a plane, we must mark out a duplicate from it for the other side of the boat and then we can fasten it in place.

In putting the planks on be sure that you have a good fit in the rabbet in the stem and that the edges are a fair and true curve; then clamp them on the frames, fastening with brass screws or copper rivets. If rivets are preferred use round copper nails, heading them over burrs or washers on the inside of the boat. In fastening the planks on we must bore for each screw through the plank and into the frame, first with a bit, the size of the head of the screw, and then with a drill slightly smaller than the diameter of the thread. The hole for the head should not be bored more than three-sixteenths of an inch deep and about one-half inch from the edge of the plank. When the sheer strakes have been securely fastened in place, clamp or nail a few cross-ties on the boat at the top to keep it from spreading, and take the moulds out. Then the boat may be turned over on two horses, which will make it easier to put on the rest of the planks.

The next plank to be fitted is the garboard, which is the plank next to the keel, and we must take a "spilling" for it as before. In sweeping the arcs on the staff, make them come quite close together where the plank is to fit in the rabbet in the stem. The garboards can be made quite wide and should run well up on the stem, as it makes the other planks run much straighter, which will, of course, make a great saving of stock, as more than one plank can be sawed out of a board.

The widths of the other planks should be laid out on the stem and stern, also on some of the frames amidships, making them quite wide on the bottom where the boat is fairly flat, and narrow at the turn of the bilge. They must be marked out on the frames so as to show a gradual taper from their greatest width to that at the ends.

After the garboards are fastened in place the other planks are then put on, working from the sheer strakes up and the garboards down (the boat being bottom up) to the bilge, so that the last plank to go on is the one just at the turn. This last plank, called a "shutter," is fitted so that it is driven tightly into place, being hollowed on the inside to fit the frames and rounded on the outside to correspond. In order to get good, tight seams a patent boat builder's chain clamp had better be procured. This clamp will also save time and will soon pay for itself. Bevel the planks so that the inside edges come together tight and the outside edges are left open about one-sixteenth of an inch for caulking.

It will be best to caulk the seams and finish the outside of the hull while it is turned bottom up on the horses before completing the inside. Before caulking, some of the seams may need to be opened up, and to do this a caulking wheel should be used. If the seams are small and uniform, a long thread of caulking cotton may be twisted and laid along the seam and then rolled into it with the wheel, so that it is about one-quarter or three-eighths of an inch below the surface of the planking. If the seams are large in places, a thin caulking iron must be used and the cotton, instead of lying in a straight string, should be drawn back to form a little loop, so that more of it will be forced into the seam. When the caulking has been completed, the entire outside of the hull must be carefully smoothed up by planing, scraping and sandpapering, until the planking is perfectly fair and smooth, with no flat places in the centre of the planks or ridges along the seams.

We will now turn the boat over and finish the inside. Set it up in the same position as when we first set up the keel, bracing under the bilges with horses or blocks.

The gunwales are put in next, being cut from an oak plank one-half inch thick. They are one and one-half inches wide, running the full length of the boat. A breasthook, made of oak, one inch thick, is fastened in the bow one-half inch below the top of the sheer strake and two knees fastened in at the stern to strengthen the construction.

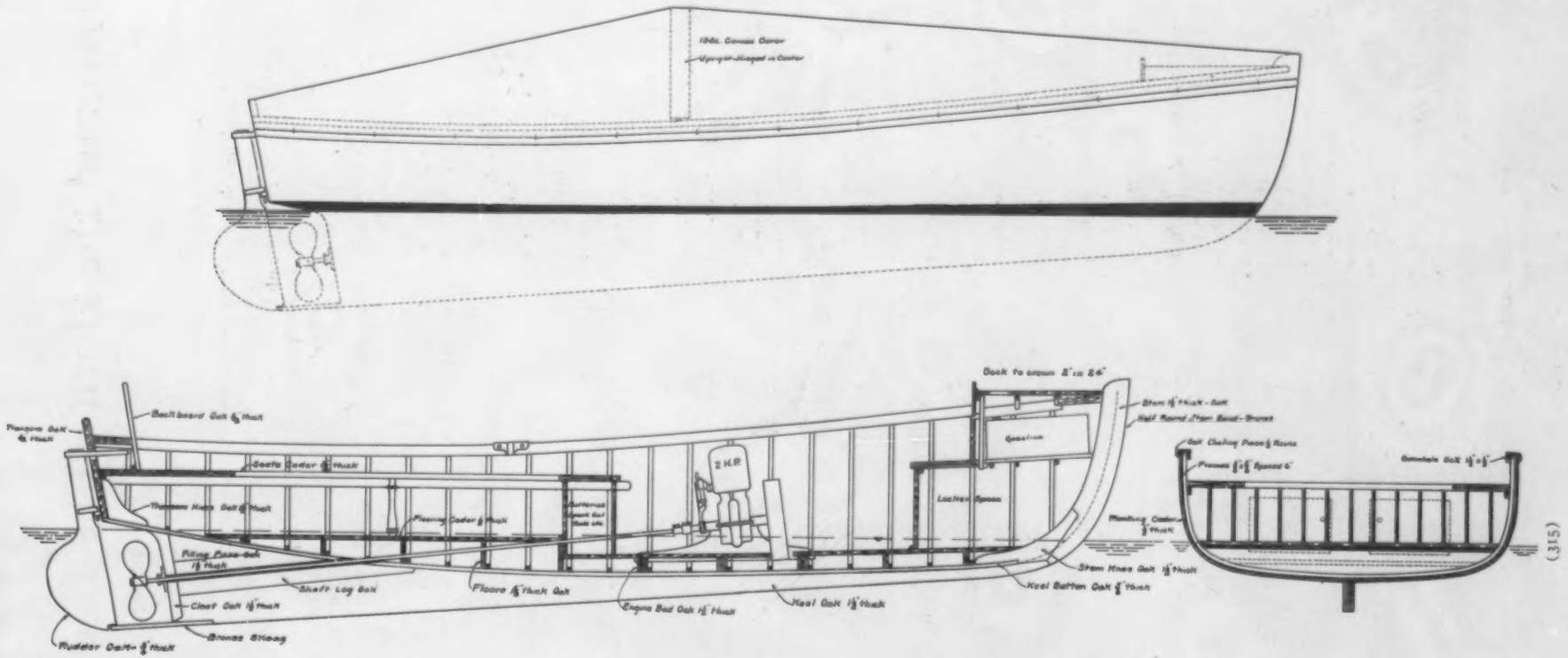
The deck beams are put in next, and the deck laid flush with the top of the sheer strakes. The centre plank is of white oak, about five inches wide. The other planks of cedar or white pine are laid in narrow pieces, with the edge of the grain up. The crown of the deck is two inches in two feet, and in laying the deck make the seams tight by caulking and filling with marine glue. Next, fasten the mouldings, or chafings strips, on flush with the sheer strakes. They are made of oak, one and one-quarter inches wide and five-eighths inch thick, having a slightly oval section.

A gasolene tank can be put in now, and the piping laid to where the engine is to set on the runners. Do not forget to stuff up the end of the pipe temporarily, so that no shavings or sawdust can get into it.

The laying of the flooring is simple and it is not necessary to explain how it is done, or the fitting of seats, bulkheads, etc. The seats can be built in as shown on the plans, or arranged according to the requirements of the builder or owner. The plan, as shown, gives plenty of locker space under the centre seat for batteries, spark coil, tools and oils, while the forward locker under the deck provides space for a folding anchor and warp.

After the inside is finished, all the woodwork should be rubbed down with fine sandpaper until quite smooth and a coat of filler applied, white shellac being very good for this purpose. As the shellac will raise the grain of the wood, it will be necessary to go over it again with fine sandpaper, smoothing it up; then two

(Continued on page 332.)


10dz. Canvas Cover
Uprights Hinged in Center
Deck to crown 8" in 24"
Stem 1½" Thick - Oak
Half Round Rigr. Band - Bronze
Gunwale Oak 1½" x 1½"
Gun Chocks Pieces ½ Round
Frames 1½" x ½" Spaced 6"
Sheathing Cedar ⅜" Thick
Seat Cedar ⅞" Thick
Floors ⅞" Thick Oak
Keel Oak 1½" Thick
Keel Batten Oak ⅞" Thick
Shaft Log Oak
Engine Bed Oak 1½" Thick
Bronze Strap
Rudder Oak - ⅞" Thick
2 H.P.

CONSTRUCTION PLAN - 13 FOOT POWER TENDER

CONSTRUCTION PLAN AND CROSS-SECTION OF 13-FOOT POWER TENDER.

Around the Horn—The Log of a Second Mate

By T. JENKINS HAINS

CHAPTER IX.—Continued.

FEBRUARY 4. The ship crossed the line last night. Yesterday evening the captain, getting out on the jib-boom end and trailing a hook, covered with a white rag, in the water just in front of the ship's bows, managed to hook and land two large bonitas. These proved very coarse food. However, their fresh flesh was very welcome.

Everything on board is cleaned and scraped, from the trucks to the decks, the spars shine brightly in the sunlight, and, with the freshly tarred rigging and painted tops, the vessel looks like new. The decks are holy-stoned for the first time, and afterwards carefully oiled, so that they look clean and smooth.

About six o'clock in the evening the third mate, who was up in the mizzen-top painting the futtock shrouds, sang out that there were two large sharks following the ship. The captain, who was on deck, went to find his shark hook and sent the steward for a piece of salt pork to bait it with.

I took out the captain's Winchester rifle and awaited developments.

The captain baited his shark hook with about two pounds of pork and flung it over the taffrail with about 50 feet of line tied to the chain end of it. At first the fish were too far off to be seen from the deck, but finally we made them out about one hundred yards astern, swimming with the tip of the dorsal fin and the tip of the tail a few inches out of the water.

As they drew nearer they sighted the pork on the end of the line, and both made a rush for it. It was uncertain which would get there first, when, by a spurt, the hindermost one shot ahead, and, turning slightly on his side, swallowed the bait, hook and about half a fathom of the chain on the end of it. Then, sheering off, he started away with it.

The captain was ready for him, however, and, after letting him run out with some few fathoms of the line, he suddenly grasped it in both hands and threw all of his weight on it to sink the barb of the hook home.

When the fish felt that he was caught, he fought viciously for several minutes; but as the captain and third mate—who had now come down on deck—took in the slack of the line around a belaying-pin, he was soon made to show himself on the surface of the sea. When he came up he made such a fuss that it was impossible to get a good shot at first, but presently his head showed above the water about fifty feet from the vessel's rail and promptly received a bullet. This only enlivened him, and he fought so hard that the captain had to slack off the line and play him.

After a while he was hauled cautiously to the surface, and again he received a shot through the head, the line being slacked off to let him swim away once more and exhaust himself with his futile struggles.

Finally, he was hauled up alongside and a bowline slipped over his tail, so that he could be hoisted on deck. This was soon accomplished, and by hooking on to the sheet tackle of the spanker—the sail being furled while running before the wind—we had the satisfaction of seeing him lying on the quarter-deck. After cutting off his tail, to adorn the end of the bowsprit for luck, he was thrown overboard, having been first measured by the third mate and found to be a trifle over twenty feet in length.

February 7. The ship entered the N. E. trades yesterday in about six degrees north latitude, and now the voyage looks nearly over. The men are counting the days that they still have before them on this ship, and many solemnly vow that they have made their last voyage. Poor fellows! Many of them will not be on shore over a month before they sign articles for a return cruise on either this, or some other ship equally bad, and those who keep their words will be the ones who do not touch whiskey and are lucky enough to find work waiting for them on the beach.

"A LARGE AMERICAN SHIP, WITH KITES UP, PASSED CLOSE UNDER OUR STERN WITHOUT EXCHANGING SIGNALS."

CHAPTER X.

After entering the trades, the air had a cool feeling, as though it came from the far north; the ship was braced sharp up to the wind on the starboard tack and headed away to the northwest.

February 13. The ship has run out of the northeast trades in 17 degrees N. lat. and is now almost becalmed. This is hard luck, for the rest of the way will be a fight for northing.

The health of the crew is not good, and all look thin and worn, as the food gets worse and worse every day. All the bread is

gone, and plain salt beef, with nothing but a little oatmeal, is bad food for the tropics.

Everyone on board is in a bad humor and several fights have occurred in the forecastle, with little injury, however, to the participants. The captain does not mind a little fracas now and then, and often takes a hand where he can do the most good, although if a set-to takes place that he does not happen to see he will say nothing to the men about it.

February 18. Lat. 23, N. Long. 122 W. A slant of wind from the eastward has helped the ship up to this latitude, and, in the hope that the vessel would make a decently quick passage, after all, the captain ordered the pig—which he had been saving as a last resort—slaughtered for the cabin mess. How good the spareribs tasted at dinner!—so good, in fact, that the captain and I ate nearly half of that pig at one meal!

As the time passes the excitement of coming into port takes the place of the bad humor, caused by the delays of the voyage, and this excitement pervades everyone. "Where are we now?" and "How far have we gone?" are the questions put to everybody except the mates and captain. It is true that the last part of a voyage is always the longest and most trying. The ordinary dangers of the sea that the sailor expects to encounter are about over, and unless there is a southeaster of unusual severity that might drive the ship ashore on the California coast, or some unforeseen accident, he naturally counts on getting ashore again in a short time. While the vessel is hove-to, thousands of miles away from port on the other side of the world, there is no time to speculate on the future; but when he feels that the ship is rapidly nearing "God's country," the desire to get ashore once more is even more intense than the desire to go to sea again, which, if he be an old sailor, will come over him after a short sojourn on the beach.

February 22. For the last six days the ship has been almost becalmed and has had scarcely steering-way on her.

One can hardly blame the captain for his brutal temper to the men when he sees his freight money slipping away, dollar after dollar, just to pay the expenses of that petrified ship on a dead sea.

Several men show signs of the scurvy, but there is no help for it. All the good provisions are gone, and the ship lies as still as though at anchor.

To-day a large American ship, with all her kites up, evidently outward-bound from 'Frisco, passed close under our stern without exchanging signals.

February 29. After a week more of drifting about in light northerly winds, which enabled the ship to make from twenty to thirty miles a day, we struck into a southerly wind last night, which increased to a stiff southeaster during the early morning hours. By daylight the ship was tearing along to the northward under top-gallant sails, and with the weather clew of the mainsail hauled up to keep the old sail from bursting with the pressure. As the day wore on, she was shortened down to topsails; but by night the wind hauled to the northward and headed her off-shore.

March 3. After driving off to the westward a couple of hundred miles the wind hauled to the north and west yesterday, and allowed us to wear ship and stand inshore to try and make the Heads of San Francisco Bay.

All night the ship plunged and labored along under every stitch of canvas that she could stand, and the seas tore over her as if she were again off the Horn. The captain cautioned us to keep a bright lookout lest we run onto one of those huge rafts of logs that are towed down the coast from Washington and Oregon. As they float low in the water and are poorly lighted, they are a constant menace to navigation on the coast.

THE LOW, POORLY-LIGHTED RAFTS ARE A CONSTANT MENACE TO NAVIGATION ON THE COAST.

At noon the next day we were within fifty miles of the Farralones. Excitement ran high. The men were mustered aft to sign their names on the slop-chest account-book, and the anchors were got over the bows. Oh, how gladly we worked!

It was all that the ship could do, however, to point as high as the Farralones, and it looked doubtful if she would make the harbor. If she did not, we would have to put to sea again and beat up to the northward, which might mean from two days to two weeks more of it, for this bar is not to be trifled with. But at four o'clock P. M. the Farralone Islands were sighted about five points off the weather bow, and in another hour they were passed and the ship was standing in for South Head.

The ensign was hoisted for a pilot, and before long a sloop was seen standing towards us under all sail. She was soon alongside, and the pilot came on board with his pockets full of oranges and apples, for he well knew what blessings these were to men who were well "pickled." The main yards were just being swung around again when a tug-boat hove in sight, coming from around the islands; so the captain held on a few moments to see what he would charge to tow the ship inside.

In a little while the tug was alongside and the captain of her hailed us.

"Do you want a tow in?" bawled the man, from the window of the pilot-house.

"How much will you take me in for?" asked our skipper.

"One hundred and seventy-five dollars," bawled the man in return.

"Go to H——!" fairly roared our captain, white with rage. "Let go those weather braces and get the yards around; quick!" he yelled to the mate, who was standing on the poop, waiting.

The main yards swung around and the ship soon gathered headway, for there was a stiff breeze blowing yet outside, although there was a possible chance of being becalmed under the North Head.

The tug-boat captain, however, had no idea of losing his prey; so he kept his boat close to the ship's lee quarter and began, in an easy tone:

"I say, captain! I'll tow you in for one hundred and fifty dollars, if you'll furnish the line."

"I'll give you one hundred dollars and not one damned cent more!" roared our skipper, as he paced impatiently up and down the quarter-deck.

The tow-boat held off a little, as though she would go away altogether, and then came up alongside and her captain said: "Take my hawser."

The fog came settling down over the bar as the night drew on; but it did not affect the Silver Sea's progress now, for a stout line was drawing her swiftly into port. Soon the Heads were passed and the lights of the city shone out to welcome her in from her stormy cruise. She passed huge ships lying in the tideway, and sail after sail was furled for the last time by the crew.

Suddenly the tug gave three sharp whistles and put her wheel down to bring the ship's head to the tide. The line was cast off and the ship's progress slowly stopped.

"All ready for'ard!" called the mate.

"Let go your anchor!" yelled the captain, and the cable roared out through the hawse-pipe as the anchor took the ground off the foot of Powell street.

The Silver Sea's voyage of one hundred and forty days was over.

THE END.

English Yachting

THINGS yachting are at their dullest now on this side of the Atlantic, and it will be well past Christmas before much thought is taken ot the season to come. The owners of the small fry have, as usual, most to say, and if talk panned out in orders we should have quite a notable fleet of boats between six and twelve metres. Unfortunately, it does not, and I conclude that when the racing begins we shall be neither better nor worse off in craft of these classes than we were in the season that is past.

I am left with two impressions of the year's experience of the International rule which may be worthy of note. One is that, judging from what everyone says, nothing serves to bring out the ingenuity of the average man like a new rating rule. We were told that the International rule plus the scantling regulations would produce a healthy type of boat. I do not know exactly what is meant by "health" in a racing yacht; but if one of the elements be structural strength, I take leave, without disclosing my evidence, to doubt the effectiveness of the rule.

What inclines to give me pause is that several of the men who had boats built for last season are about to build new ones for next year, and each and all of them takes you into a corner, so to speak, for the express purpose of whispering into your ear that *now* they know exactly the kind of boat to build. In other words, they understand the rule—they think they understand it, at any rate—and are intent on circumventing it. Of course, that is what invariably happens; yet the futility of laying down formulæ which grow more involved with every change is recognized by nobody. The plainest thing in the world is, that the simpler a rule is the less easy is it to break it. Every clause added to an act of Parliament represents an aid to a man who sets out to evade its lawful effect.

The other thing which has impressed me is that the International rule has not increased the possibilities of international racing. To be frank, I thought that was one of the things it would do. I had seen great shows of small-class boats in the Riviera in the nineties, and subsequently—in 1900, to be exact—in the Baltic, at Kiel and other places. The knowledge that there was all this racing on the continent induced a hope within me that, with an International rule, we and European yachtsmen would be found supporting each other's regattas. Thanks to the Olympic contests, we had some racing of the kind in the Solent before Cowes Week; but it was not of an absorbingly interesting character, and, from the general demeanor of the foreigners, we are not justified in assuming that there will be recurrences of it. The big "A" class of schooners and yawls made, it is true, a fair show in the Thames regattas; but obviously that was by way of inducement to our people to go to Kiel. It is also true that we had the crack German schooner Germania at Cowes. A better test of the effect of the rule was, however, obtainable in the Channel regattas, those at Havre, Ostend, Antwerp, and on that coast. But for English boats these fixtures would have been frosts from the international point of view, and but for English boats they will continue to be frosts for a very long time to come. That, at any rate, is my opinion of the matter. So that against our new rule it has to be recorded thus early that it neither fixes the type nor promotes international sport.

The talk of new big boats for next season is not very definite yet. The official announcement, however, that Mr. Myles B. Kennedy has ordered a new White Heather may make a difference in the plans of some of the others. We shall have Shamrock, of course, sailing, in all probability, a faster vessel. That is, at any rate, a way Fife boats have. Sir James Pender's Brynhild was, as her record showed, good enough for the fun there was last year, and if there had been no new White Heather her owner might have been content to go another season with her. Another Brynhild seems, however, inevitable; and if the order goes to Mr. Nicholson we may look for something out of the common. No mention is made of the designer of Mr. Kennedy's new yacht, but I do not see how or why Fairlie's claims to build the ship can be ignored. With Shamrock, White Heather III, Brynhild III and that Herreshoff flyer of which Mr. Morton Plant talked when he was at Cowes, we should have a very notable class of 23-metre cutters.

Some rather interesting racing cruisers built to the International rule are under construction here, and one or two of them may be seen at Monaco in the spring. From all accounts, they are likely to suffer in respect to speed by comparison with some of the continental craft, for much the same reason as our challengers for the British International Cup proved inferior to your defenders. Their powers are reasonable, and the hulls are not shells. None of our people, that is to say, are building for Monaco pure and simple; the boats are intended for the British season as well. That is a mistake, however, which is not to be repeated when we come to your side again after the cup which Dixie took away. The next challengers are to be built for the cup race and nothing more. They are to be smooth-water craft of exceptionally high power. It may interest readers to know that a possible early challenger will have a Napier engine. That means that Mr. S. F. Edge has a notion of adding a marine motoring record to the many track and road records he already possesses. However, we shall know all about this before very long.

ROBERT MACINTYRE.

Meeting of the Yacht Racing Union of the Great Lakes

CANADA CUP RACES IN DANGER

THE Yacht Racing Union of the Great Lakes held its annual meeting at Chicago on October 31 last. Lakes Erie and St. Clair were represented by Dr. C. G. Jennings, of Detroit, and Mr. Myron B. Vorce, of Cleveland, Ohio; Ontario by Messrs. Amelius Jarvis and J. S. McMurray, of the Royal Canadian Yacht Club, Toronto, and Mr. Thomas B. Pritchard, of the Rochester Yacht Club; and Lake Michigan by Messrs. E. P. Warner, president of the Union, George R. Peare and Charles Scates.

The amendments to the so-called Universal Rule recently made at the Atlantic Coast Conference of Yacht Clubs were adopted, with very slight changes. There was no friction until the usual clause at the end was reached which provided that the existing yachts of the Union should not be barred from racing under the new rules.

This clause, as adopted, reads as follows:

"Yachts built on, or brought to, the Great Lakes prior to November 1, 1908, are exempt from the above restrictions."

Upon the interpretation of this clause probably depends the question as to whether there will be another race for the Canada Cup, for which a challenge from the Royal Canadian Yacht Club, of Toronto, is now in the hands of the Rochester Club.

The Rochester Club defended the cup successfully the last time with the Herreshoff wonder, Seneca, in the 27-foot class. She was turned out under the old rules, which did not restrict the scantling, and is built to the limit of lightness. After the last race Seneca was sold to Mr. Hanan and taken to Long Island Sound. Mr. Hanan, however, is a member of the Rochester Yacht Club, and Mr. Pritchard claimed that Seneca is eligible to race for the cup again, inasmuch as she had been brought to the Great Lakes prior to November 1, 1908.

Mr. Jarvis insisted that Mr. Hanan was simply a non-resident member of the Rochester Club; that Seneca had been taken from

the Great Lakes permanently to be sailed in the East; that her home port was not on the lakes, and if she were brought back to the lakes it would be after November 1, 1908, and consequently she would not be eligible.

Mr. Jarvis frankly admitted that he was in some doubt as to this interpretation of the clause, but stated emphatically that if the Rochester Yacht Club should claim the right to race Seneca for the cup, the Royal Canadian Club would either withdraw the challenge or change it from the 27 to the 35-foot class. It was his opinion that Seneca is the fastest boat of the class ever built, and is practically unbeatable by any boat that could be built under the new scantling restrictions of the Universal Rule, which would place a severe handicap upon a new boat by reason of the added weight, and it would be ridiculous for the Canadians to attempt to build a boat to beat Seneca under these rules.

Mr. Pritchard contended that the Canadian boats built for the last cup race—Adele, Crusader and Aileen—would be eligible to race again under this exemption, and therefore there was no reason why Seneca should be barred.

Mr. Jarvis replied that his club did not intend to enter any of these boats for the cup, but would build a boat under the new rules; and all they asked was to meet a boat built under the same scantling restrictions.

Mr. Pritchard asked for a ruling of the Union as to Seneca's eligibility, and Mr. Scates moved to amend the exempting clause to read: that any boat built on, brought to, or that had been owned and sailed on the Great Lakes prior to November 1, 1908, should be eligible; but it was held that this was a question to be settled between the two clubs rather than by the Union, and the amendment was voted down.

The refusal of the Union to interpret this clause puts the matter squarely up to the two clubs; should neither recede from its position there will certainly be no race in the 27-foot class; and, from the tenor of Mr. Pritchard's remarks during the meeting, the chances for a race in the 33-foot class are not bright.

Mr. Amelius Jarvis was elected president and Mr. J. S. McMurray was re-elected secretary.

With Our Readers

EDITOR YACHTING:

I am a regular reader of your magazine. After stating my ideas and desires, I appeal to you, and would ask your indulgence for a personal reply giving your unbiased opinion and advice, for which, if necessary, I would willingly pay you. My reasons for this are: that most advertisers and manufacturers of engines and boats have their own "axe to grind," and I fail to get an unprejudiced expression of views on the subject.

I have had a small gasolene launch, consequently know something of the pleasures and considerable of the tribulations of handling the engine. In anticipation of next season I intend to buy, or have built, an open launch—say not to exceed 25 feet in length—to be used for pleasure purposes on a lake in Maine where there is oftentimes considerable rough water. Accompanying this I give you a crude outline of the models preferred. In an open boat of 25 feet length I would like to get, *if possible*, a speed of 12 miles per hour, at the same time not wishing to sacrifice *durability*, *safety* and *stability*. My preference would be to have the engine (smallest and most compact with greatest power necessary) placed well forward, so as to allow all of the seating capacity aft, and if further possible to get such an engine as could be started without the distress and danger of cranking, so prevalent in many engines. I realize what the limitations of my ideas are, which, of course, are open to modifications.

The question of engine is what gives me most difficulty, and is the one about which I cannot get satisfactory and unbiased advice; therefore, will you please express your views as to the relative merits of the vertical, horizontal-opposed and auto-marine engines for such a boat, and which would you recommend; also, will you go so far as to recommend to me, say, half a dozen or more of the most reliable firms, which would be treated in strict confidence?

Hoping you will favorably consider and reply to this request, believe me,

Sincerely,

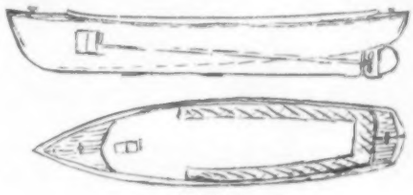
JAMES RITCHIE.

JAMES RITCHIE, Esq.,
23 Wellington Street,
Arlington, Mass.

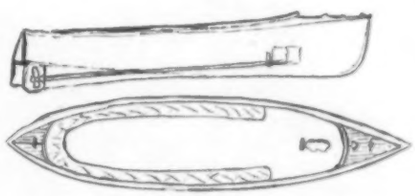
September 16, 1908.

DEAR SIR:—Yours of the 8th inst. to hand. Of the two models sketched out by you we would say, all things being equal, the first model would be apt to make with the same power about three-quarters to a mile less per hour than model No. 2. At the same time we personally believe it to be a pleasanter craft for rough weather, and it certainly is a prettier model.

When you speak of desiring to avoid cranking, you are, of course, aware of the fact that except on a 4-cycle multi-cylinder engine, which may be started either by air pressure or by sparking one of the cylinders which is charged, that an engine must be started either by cranking or by rocking the fly wheel. So-called self-starting engines, which do not require cranking, are



MODEL I



MODEL II

put into operation by throwing the fly wheel against the compression and letting her go.

As a matter of fact, therefore, an auxiliary starting wheel geared up to your engine shaft, and which would be of sufficient height to be reached without stooping over, would be a very comfortable arrangement.

In regard to engines, the matter is a very broad one—in fact it is about as broad as it is long. The all-over perfect engine has not yet been made, and it will probably be some time before it is. Each type has its advantages and its disadvantages. For instance, with a horizontal opposed engine there is much less vibration than in the vertical engine. Its weight is also low down, and it can be stored away in a very inconspicuous position. In fact, it is possible to store away a pretty good-sized horizontal opposed engine under a thwart-ship seat, leaving the cockpit almost entirely free of machinery.

On the other hand, a vertical engine, when anything does go wrong, is apt to be more easily investigated, and its running parts and vital features are much more easily reached and kept under scrutiny while running. We believe that with the right lines your model No. 2, with a twelve to fifteen horsepower engine, should go somewhere in the neighborhood of 11½ or 12 miles per hour. Model No. 1 would probably make 1 or 1½ miles less, but, you see, a great deal depends on the lines.

In regard to engine manufacturers, our experience has been that while, as you state, they have their own axes to grind, which is natural, as that is what they are in business for, they are a pretty square set of men, and will not mislead anyone who puts his case fairly before them. As we have said before, the average gas engine of to-day is good.

You can rely upon any one or all of our advertisers to give you the straight goods and help you out. Very truly yours,

YACHTING PUBLISHING COMPANY.

WILLIAM K. VANDERBILT JR.'S 70-footer Virginia is the first of those famous craft to undergo a complete transformation. This great racer has been purchased by Robert Barrie, of the Corinthian Yacht Club, and she is having her rig cut down and will be used as a houseboat.

Others of the class are on the market, and their change of ownership and rig, or practical disappearance, is sure to follow.

The class was designed and built by the Herreshoffs in 1900 for the following New York Yacht Club members: The Rainbow, Cornelius Vanderbilt; the Virginia, W. K. Vanderbilt, Jr.; the Mineola, August Belmont, and the Yankee, H. B. Duryea and H. P. Whitney.

To Build Big Steam Yacht.

Mr. George F. Baker, Jr., N. Y. Y. C., has commissioned Mr. Theodore D. Wells, of this city, to prepare for him the plans and specifications of a steam yacht about 175 feet over all, and the work is well advanced. The yacht, it is reported, will be built at the Pusey & Jones Company's works, Wilmington, Del.

Mr. Baker had the steam yacht Issaquena chartered for a time during the last season, and he is the owner of the high-speed motor boat Vim, which won the long-distance race from New York to Poughkeepsie and return on September 23.

Seawanhaka Cup Race.

In connection with the international sonderboat races at Marblehead next season, there will, in all probability, be a race for the Seawanhaka Cup, which was won by the Manchester Yacht Club from the Royal St. Lawrence Yacht Club three years ago after it had been in Canada nine years. Two members of the Royal St. Lawrence Yacht Club have expressed their intention of entering.

One-Design 16-Footers.—Big Class to be Built for Racing by Manchester Y. C. Members.

Members of the Manchester Yacht Club are to have a class of small boats for racing next season, and work on these will soon start at Rice Bros.' yard, at East Boothby, Me. These boats, which are from the design of B. B. Crowninshield, appear to be one of the finest classes of one-design boats ever turned out.

The boats, which will be 25 feet 10 inches over all, 17 feet 6 inches waterline, 6 feet 3 inches beam and 4 feet 3 inches draught, are designed somewhat after the rating rule. The boats will have fuller ends than if built to the Universal Rule, but otherwise they are virtually 16-raters.

All ballast will be outside, with 1,400 pounds in the keel, and they will carry 310 feet of canvas, 244 feet in the mainsail and 66 feet in the jib. They will have watertight cockpits and small cabins.

Already contracts for five boats have been signed, these being for Francis W. Fayban, A. C. Needham, George Lee, George Wigglesworth and Charles E. Hodges. It is expected that at least ten more members of the club will have boats built, and it is hoped that fully twenty boats will be in the racing next summer.

An order for a class of boats of the Dorello type, the successful Boston, Owen-designed, 39-footer, will be placed with the Herreshoffs next month. Roy Rainey, James L. Blair, F. C. Henderson, Clifford Mallory and other members of the New York Yacht Club will, it is said, own boats in this new class.

Rival for the Schooner Queen.

Out of the mass of rumors in regard to new boats for next season one definite fact has arisen. A new schooner, which is, or rather will be, designed to defeat J. Roger Maxwell's Queen, is now being outlined on the boards of a prominent American designer. At present it is necessary that full details be withheld, because past seasons have shown that there is many a slip 'twixt the order and the launching. But if everything goes well the plans will be in the builder's hands before the winter is well along. The appearance of a worthy rival for the laurels which Queen now wears on her bowsprit will in itself be sufficient to make next season successful. The designer is confident of turning out a boat swifter than anything that ever came from his boards, which is saying a great deal, and that means great racing on the Sound and ocean in 1909.

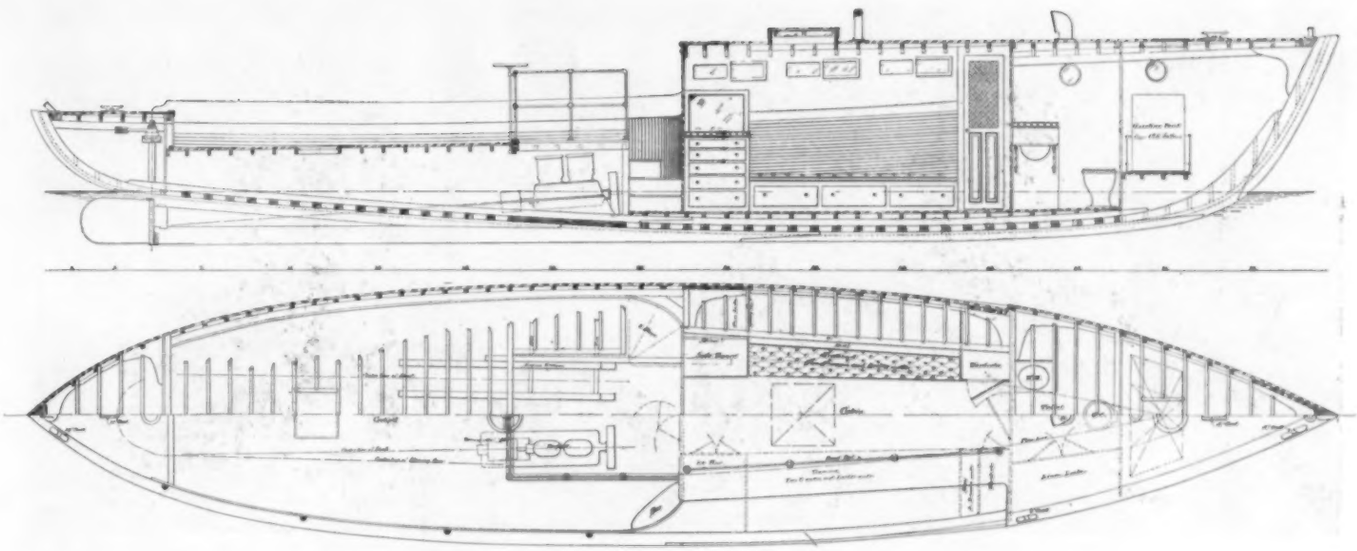
At a meeting of the executive committee of the American Power Boat Association, held in this city last month, a committee of five was appointed to confer with the surveyor of the port, James S. Clarkson, and other government officials, and present suggestions and recommendations that may be incorporated into a bill to be presented to the next Congress. The committee is composed of these yachtsmen: Henry J. Gielow, Atlantic Yacht Club; Charles P. Tower, Motor Boat Club of America; J. Howard Wainwright, American Yacht Club; Henry R. Sutphen, Columbia Yacht Club; C. Andrade, Jr., Indian Harbor Yacht Club.

Speed Launch for South Bay.

A speed launch is being built at Jacob's City Island yard for F. Max Huber, of Brooklyn, which will be used on Great South Bay next season. This launch has been designed by Henry J. Gielow and has no extreme features, but is of a sensible, wholesome type. She has easy lines and fair form, with a good sheer and freeboard. The launch is 35 feet over all, 34 feet 10 inches on the waterline, 4 feet 3 inches beam and 21 inches draft under the propeller. The construction of the hull, while not being heavy, will be substantial, and great strength will be obtained by a system of internal stringers and transverse bracings that will relieve the planking from all strains and stresses except that due to the upward pressure of the water.

There will be one open cockpit 16 feet 6 inches long, with a transverse bulkhead 8 feet 6 inches from the forward end firmly connecting with the sides of the hull. The portion of the cockpit forward of this bulkhead will be for the engine, and there will be lots of space around the motor, so as to permit easy inspection of all its parts. The steering wheel, operating levers of the engine and a seat for the helmsman will be in the forward end. The after part, 8 feet long, will have one seat across the after end and rattan chairs for the owner and his guests. This boat is to be driven by a Mercedes 20-24 motor, which will drive a Gielow propeller 1,100 revolutions a minute. The boat will be ready for delivery by May 15.

John F. Small has received the following orders: A 45-foot overall keel schooner for W. H. Bailey, Jr., of Fullerton, Cal.; a 57-foot auxiliary fishing schooner for G. L. Allen, of Baltimore; a 28-foot open launch for Leonard Tufts, of Meredith, N. H.; a 33-foot open launch for James W. Hutchings, of Boston, and a 25-foot speed launch for George A. Mason, of Glasgow, N. S. The last two are for use on Lake Winnepesaukee.

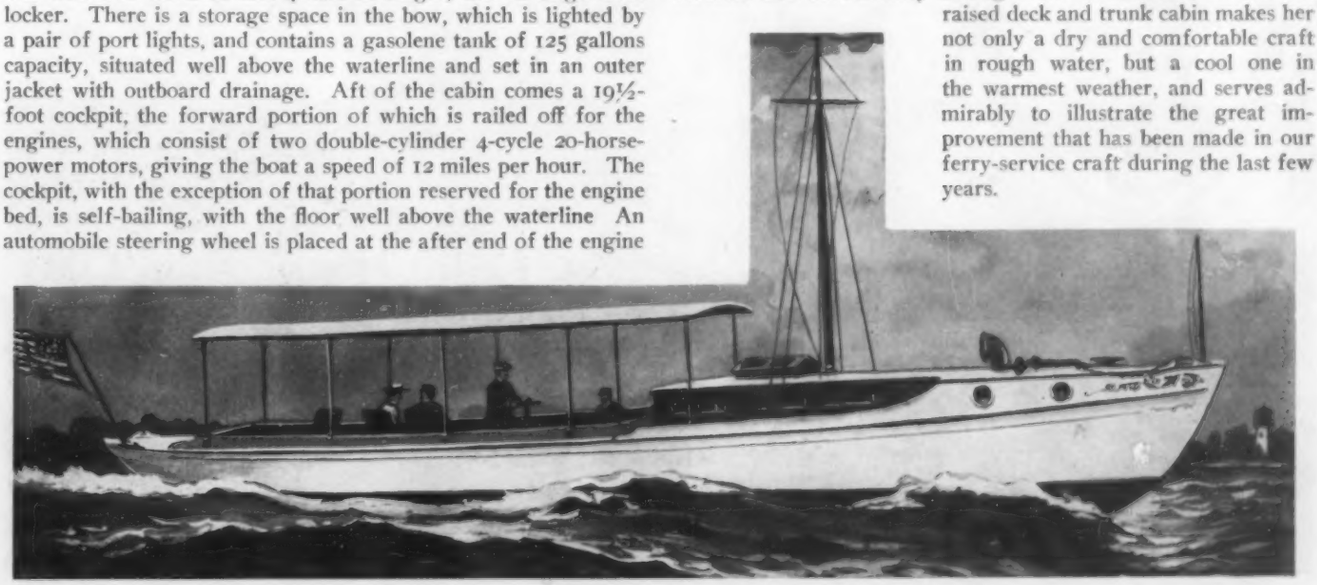


A 50-Foot Ferry-Service Power Boat

THIS boat, designed by Henry J. Gielow for use of Simon F. Rothschild, Esq., of Brooklyn, on Great South Bay, is a 50-foot, compromise stern craft of the day-boat or ferry-service type. Her load-waterline length is 43 feet 3 inches, extreme beam 10 feet, and she draws 25 inches of water. Forward, the sides of the boat are carried up to the cabin roof for a distance of 12½ feet aft of the stem piece. From this point the cabin roof is brought in for some 12½ feet more to allow for a 30-foot side deck, protected by a rail tapering from the full height of the deck forward to a few inches at its after extremity.

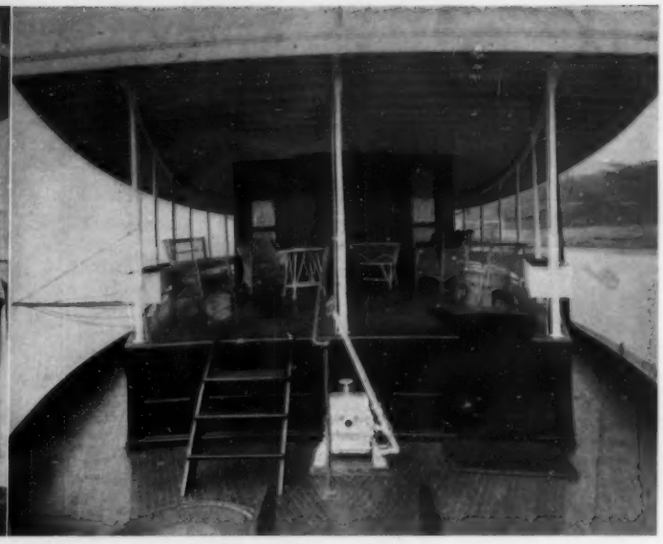
The cabin is lighted by four port lights in the raised deck, and by six drop-sash windows in the after trunk. The cabin proper is 12½ feet in length, with sideboard and ice box at the after end. Forward of this, on each side, is a transom 8 feet long. Still further forward is a large wardrobe on the port side, with a shelf and drawers underneath, while there is a smaller wardrobe to starboard. A toilet room is forward of the cabin extending the full width of the boat and 4 feet in length, with a large linen locker. There is a storage space in the bow, which is lighted by a pair of port lights, and contains a gasolene tank of 125 gallons capacity, situated well above the waterline and set in an outer jacket with outboard drainage. Aft of the cabin comes a 19½-foot cockpit, the forward portion of which is railed off for the engines, which consist of two double-cylinder 4-cycle 20-horse-power motors, giving the boat a speed of 12 miles per hour. The cockpit, with the exception of that portion reserved for the engine bed, is self-bailing, with the floor well above the waterline An automobile steering wheel is placed at the after end of the engine guardrail in such a position as to give the steersman an unobstructed view forward, over the cabin. A flight of three steps leads to a passageway between the cabin and the engine space, giving access to both. On the starboard side of the forward end of the cockpit a step leads up to the side deck. A skylight over the cabin and a ventilating cowl over the bath room insure an ample supply of fresh air. Just forward of the skylight is a mast for signaling purposes. The reversing gears are situated directly under the steersman, allowing the levers to be brought up to his hand, so that the boat may be handled, if necessary, by a crew of one, the steersman having the motor continually under his eye.

There is a very liberal amount of storage space under the cockpit, to which access is had by a square hatch in the cockpit floor. As will be seen by a glance at the plans as shown above, this is a type of boat which combines more than ordinary cockpit accommodation with a comfortable and conveniently arranged cabin. The combination of raised deck and trunk cabin makes her not only a dry and comfortable craft in rough water, but a cool one in the warmest weather, and serves admirably to illustrate the great improvement that has been made in our ferry-service craft during the last few years.



A 50-FOOT POWER BOAT, COMBINING AMPLE COCKPIT ROOM WITH MANY CABIN CONVENIENCES.

UPPER DECK OF NAJME, LOOKING FORWARD.



MAIN AND UPPER DECK FORWARD, LOOKING AFT.

96-Foot Houseboat Najme

NAJME, owned by Edward Becket, Esq., of New York City, is a 96-foot houseboat, remarkable for her commodious quarters and handsome finish.

A striking feature of her arrangement is the dining room, entered by two companionways from the after deck. This room is 13 feet long, 23 feet wide, has over 6 feet of headroom underneath the deck beams, and is finished in solid mahogany. There is a stability about the appearance of the room which makes it hard to realize that one is aboard a boat. The effect of roominess is increased by the fact that the sitting room opens into the dining room, and is separated from it only by portiers, which may be pushed aside, making one large apartment of sufficient size to permit dancing below decks. The sitting room is 24 feet in length and 10 feet wide. From the center of the room alcoves open to port and starboard, extending to the sides of the deck house, and with windows giving plenty of light. On each side of the sitting room, and with their doors opening into these alcoves, are two staterooms—the after pair 10 feet 6 inches in length and 7 feet wide, and the forward pair 9½ feet in length and 7 feet wide. Each stateroom contains a large brass bed and dresser, and is lighted by two large windows.

Just forward of the staterooms on the port side is a large bath room, with a full-sized tub, and forward of this is a cabin for cook and steward, which is entered from the galley. On the starboard side is the cabin for the captain and mate, with door opening into the galley.

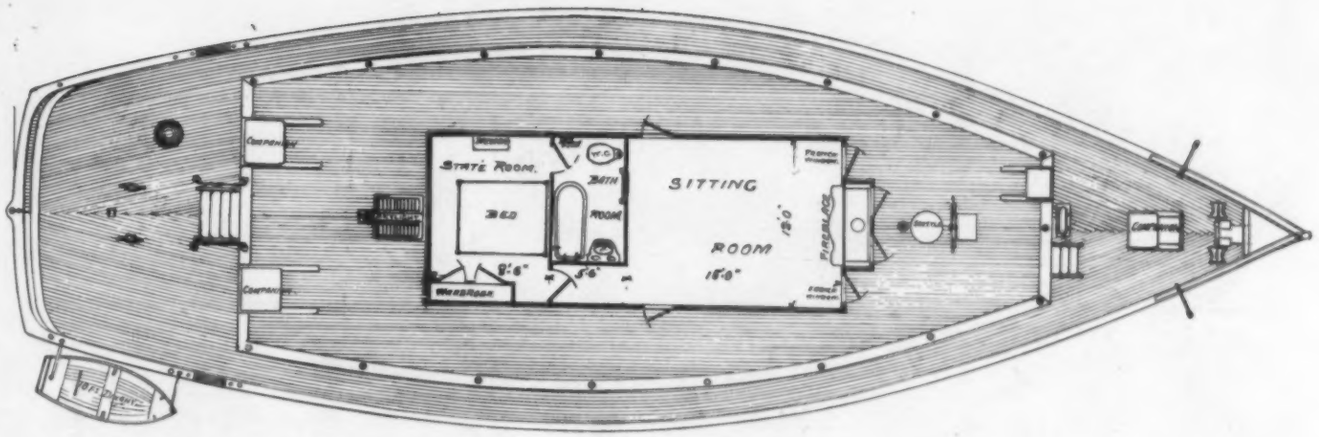
It will be noticed that the arrangements are such that the quarters for the paid hands are entirely separate from those of the owner and guests.

The galley is a very spacious affair, running across the full width of the deck house, measuring 10 feet in length, and being supplied with large lockers under the side decks. It is equipped with coal range, sink, table and wash tubs, and in addition to a swing door leading to the ice box lobby has companion steps, giving access to the forward deck.

Under this forward deck are the crew's quarters, containing two berths and reached by a companionway just aft of the windlass. Najme has a forward deck of ample dimensions for handling supplies, while allowing plenty of fresh-air space for the crew. The side decks are 3 feet wide, and the main deck aft

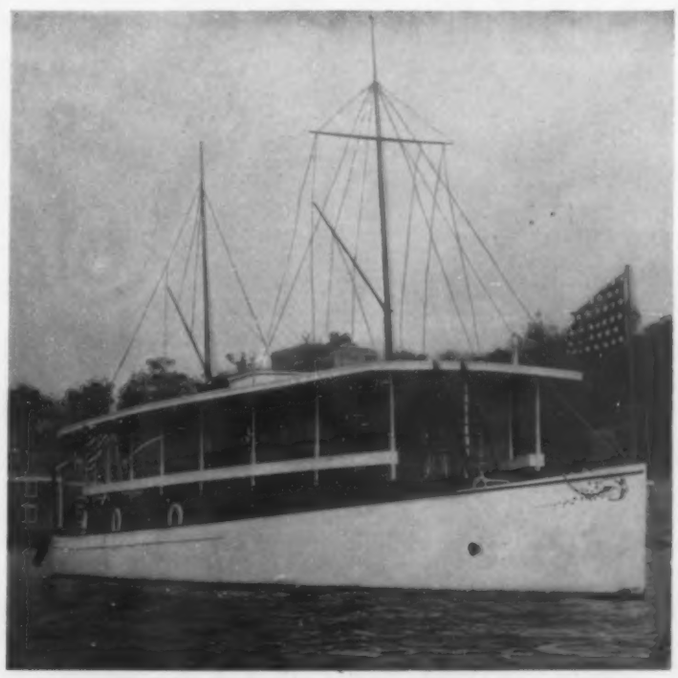
MAIN SALOON, LOOKING FORWARD.

UPPER DECK SALOON, LOOKING FORWARD.



is 16 feet in length, extending across the full width of the boat. From this deck two companionways lead to the dining room, while between them a central stairway leads to the upper deck, on which is a 30-foot house, 12 feet wide, containing a large stateroom, bath and saloon. The stateroom is 8½ feet long and contains a large double bed, a dresser and a wardrobe of generous dimensions. The bath room, which is considerably larger than that of the average apartment, contains a full-size bath tub.

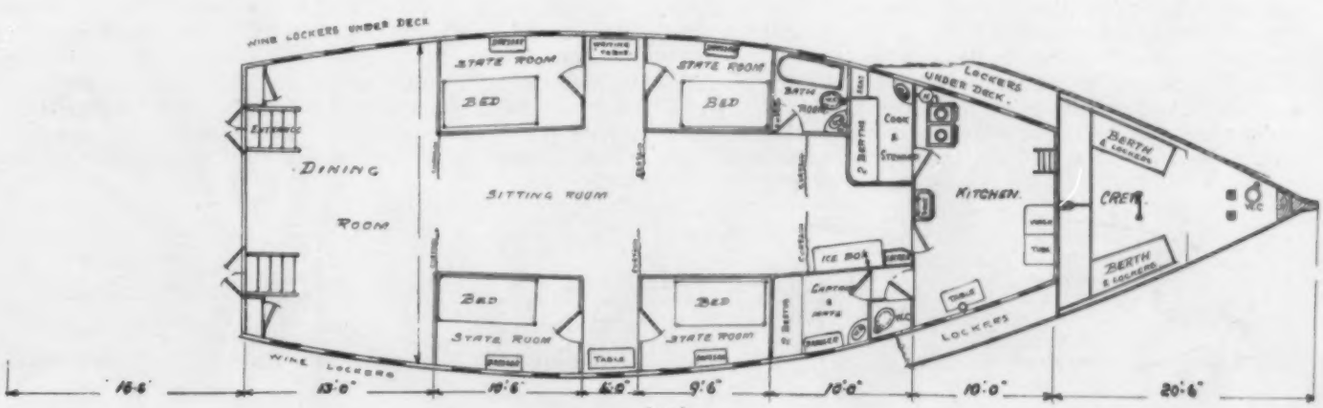
The upper deck sitting room, which is 15 feet in length and 12½ feet wide, has a handsome fire place at the forward end, flanked by French windows giving access to the forward deck. The upper deck is protected by a wooden canopy and supported by heavy round stanchions, the construction of which is sufficiently strong to allow the awning roof to be used as a deck when desired. Along the gunwales of the boat are rows of flower boxes, giving the entire craft the appearance of a roof garden. With the exception of the interior of the upper deck house, the finish of the boat is of solid mahogany. Her dimensions are 96 feet overall, 30 feet extreme beam, 5 feet depth of hold, and she draws 3 feet of water. The most striking feature of Najme is the extremely generous dimensions of stateroom, dining and sitting rooms.

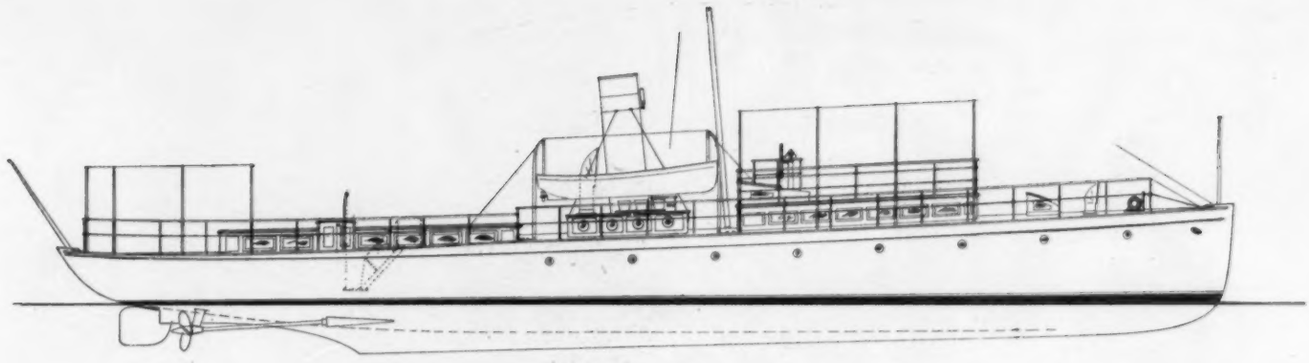


THE 96-FOOT HOUSEBOAT NAJME. THE PLAN BELOW SHOWS HOW GENEROUSLY SHE IS PROVIDED WITH STATEROOMS AND LIVING QUARTERS.

As originally built, she was sloop-rigged, but it was found that it required to handle her canvas a larger crew than a houseboat needed. So her enormous mast was unstepped and supplanted by two signal masts of moderate size. The dimensions of her original stick may be best described by stating that the hole in the deck through which it was stepped is now used as a scuttle hatch.

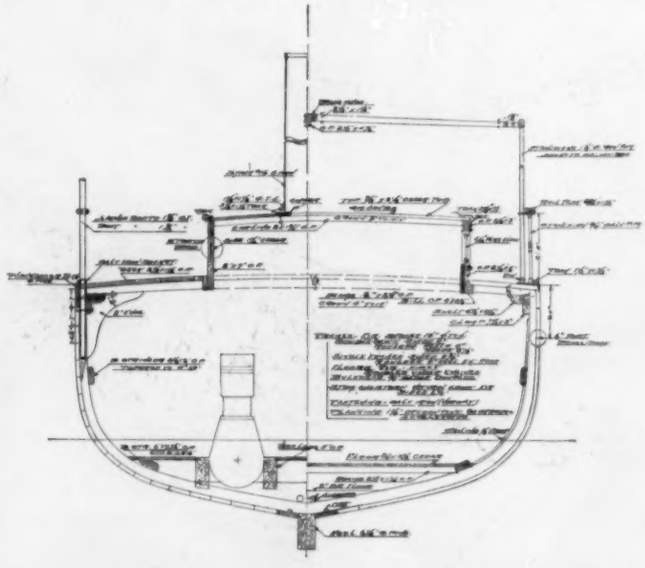
A 30-foot power tender with a 20-horsepower engine serves to move her short distances or for changing moorings. For longer journeys she is dependent upon the services of a tug.





A 90-Foot Twin-Screw Motor Yacht

WE show herewith the plan of a 90-foot, twin-screw motor yacht designed by Morgan Barney, of New York, for Mr. Burdell, of San Francisco, Cal. Her principal dimensions are as follows: Length over all, 90 feet; load waterline, 82 feet; beam, 15 feet; draft, 4 feet. She has a straight bow and a canoe stern. The scantlings used in construction were proportioned to the woods used in shipbuilding on the Pacific Coast.



She has two cabin trunks, occupying relatively the same positions as the deck houses on the larger type of steam yacht. Her resemblance to a steam yacht is still further heightened by the stack amidship—which takes the exhaust from the engines—rising through a raised companionway with side port lights very similar in appearance to the house over the engine room on a steam craft.

The deck houses have ample passageway between them and the sides of the deck, and the forward trunk is protected with an awning and serves as a bridge deck. Her forward deck is 19 feet 8 inches in length. The forward cabin trunk is 18 feet in length, and between this and the central companionway leading into the engine room is a passage 5 feet 2 inches wide, while a similar passage, 3 feet 8 inches wide, separates the engine room hatch from the after cabin trunk. This after trunk is 22 feet long, and a companion hatch in the starboard side just aft of her gangway leads into the dining-room.

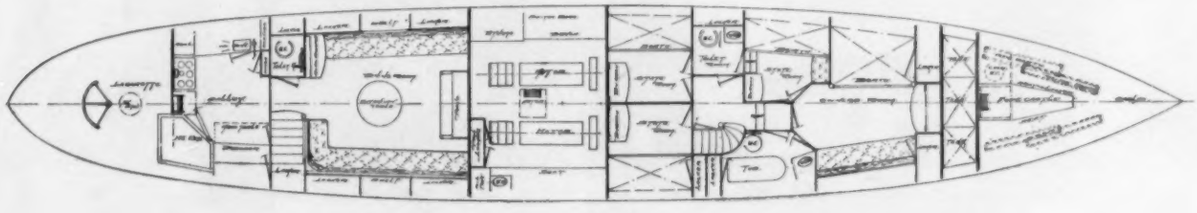
This dining-room has settees on each side, an extension table in the center, and a piano against the forward bulkhead. Aft of the dining-room is the galley, containing a large ice box, a ship's stove, sink, refrigerator, and dish and provision lockers. The mess table for the crew is also situated in the galley, which, with the small crew carried, is more convenient than it would be to have the men served in the forecastle. The galley is entered by a sliding door from the dining-room and by a flight of steps and a companionway leading to the after deck, which is covered by an awning. Aft is a lazarette, entered by a circular deck hatch.

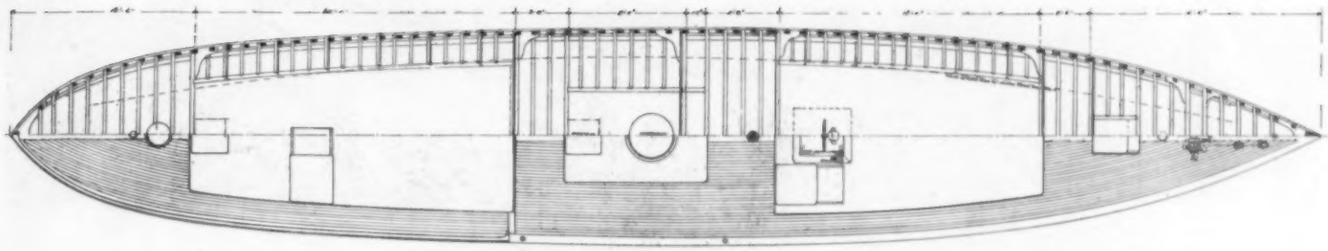
Forward of the dining-room and occupying the central portion of the craft is the engine room, wherein are installed two 50-horsepower, four-cylinder motors which will give the boat a speed of 15 miles per hour. On the port side of the engine room is the dynamo, switchboard and a work bench. On the other side is the engineer's seat, wash basin and oil tank.

Forward of the engine room—which, by the way is isolated from the living portions of the craft by watertight bulkheads—are the sleeping accommodations of the yacht. From the starboard side of the after end of the forward trunk a companion hatch and flight of steps lead down into a central lobby.

Aft of this lobby on the port side is a stateroom, 7 feet in width by 6 feet 6 inches in length, with a single berth and a bureau. From the starboard side of the lobby a door leads into a similar stateroom. The forward end of the lobby leads into the owner's room, which runs entirely across the full width of the yacht.

On the port side of this room there is a large double berth, and on the starboard side a settee. Forward of both berths and settee are large clothing lockers with a dressing-table between them. From the after end of the owner's room on the starboard side





a door leads into a bath room, which may also be entered from the lobby.

On the port side a smaller stateroom, with a berth, a seat and a bureau, is also entered either from the owner's room or the lobby.

The forecastle has pipe berths for four men, and between it and the owner's room are three fuel tanks of 600 gallons capacity, giving the yacht a cruising radius of from 600 to 900 miles, according to speed, the greater distance being obtained at a speed of 10 miles per hour.

Engine space on this craft is so located as to place the heavy weight of her motors and machinery where they will render her most seaworthy. She is steered and controlled from the small raised bridge, the floor of which is a few inches above the top of the forward cabin trunk, thereby giving the steersmen a clear view over the other occupants of her bridge deck.

The forward deck is raised slightly, and the after deck has a low, solid bulwark. She has a single signal mast erected a trifle forward of amidships, and carries a 16-foot power tender and a 12-foot dinghy, and she can be handled by a crew of four, consisting of a captain, an engineer, a cook and one seaman.

In general, the yacht was designed to secure the maximum of economy both in initial outlay and in cost of maintenance. The engines are of a size to give what may be considered a maximum cruising speed, as in such a vessel an increase in speed over 15 miles would require a disproportionate increase in power and cost, besides greatly reducing the room now available for the owner.

LORNA DOONE, A 52-FOOTER, ADAPTED FOR AFTERNOON RUNS IN ANY KIND OF WEATHER. SHE MAY BE HANDLED BY A CREW OF ONE.

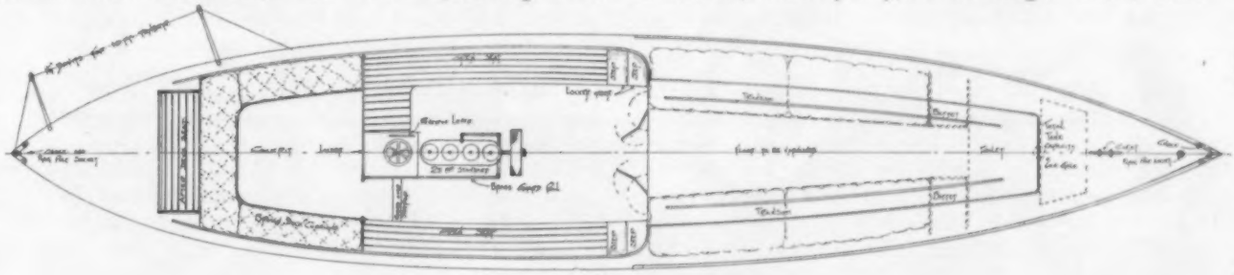
Lorna Doone. A 52-Foot "Afternoon Cruiser."

LORNA DOONE, designed and built by Geo. Lawley & Son Corporation for I. H. Clothier, of Philadelphia, represents a type of afternoon boat with house forward for protection from rain or for use in "A la carte cruising"—i. e., a cruise where one sleeps aboard and eats ashore.

She is 52 feet over all, 10 feet 2 inches beam, 3 feet 3 inches draft. She has a long, low cabin trunk forward, covering a cabin 13 feet 9 inches in length, and with 6 feet 5 inches head room. There are two transom berths on each side and two buffets at the forward end of the cabin. The trunk has five plate-glass windows on each side, and is narrow enough to allow a deck 21 inches wide on each side. Chain locker and a gasolene tank of 200 gallons capacity are under the forward deck. Behind the cabin is an engine cockpit 12 feet 3 inches in length, with open slat seats on each side and at the rear. At the rear of this cockpit is a 25-horsepower, four-cylinder, four-cycle motor surrounded with a brass guard rail. Just aft of the motor is a horizontal steering wheel and reverse lever, which allow one man, serving as the pilot-engineer, to control the engine and steer. At the rear of the engine cockpit is a second cockpit, for passengers and guests, with brown cushioned seats on three sides. A feature of the boat is a deck seat extending athwartship just aft of the passenger cockpit and raised sufficiently to give the occupants a clear view forward over the cabin trunk. The passenger cockpit is 7 feet in length and the after deck 8 feet. At the stern, on the port side, are davits for carrying a 10-foot tender.

Both cockpits are shaded by awnings carried on removable metal stanchions. The boat has a slightly rounded bow and a canoe stern. Her narrow beam, in proportion to her length, and the moderate height of her cabin trunk, gives her a trim, speedy appearance, and she actually makes 11 miles per hour. Outside work, such as cabin trunk, cockpit and trimmings, is of teak, and she is double-planked of cedar, copper-fastened.

A duplicate boat—Dolly Bowen—was built for Miss Eleanor C. Stewart, of New Jersey, for use along the Maine coast.



EDITORIAL

Published by the Yachting Publishing Co.: Oswald Garrison Villard, President; Robert M. McBride, Secretary and Treasurer.

Sonderklasse Races

It is with extreme satisfaction that we view the efforts being put forth in behalf of the International Sonderklasse races for next summer. The secretary of the race committee of the Eastern Yacht Club has sent invitations from the Atlantic to the Pacific coasts to all yacht clubs that foster small boat racing, urging them to enter representatives in the trial races to be held off Marblehead. This assures a broadly American character to the racing, and as we understand that the Kaiserlicher Yacht Club has taken a similar stand, the International race itself should be thoroughly representative.

To our mind, as much as we should like to see a race for the America's Cup, a contest between boats of this size is of infinitely more value to the sport than one between single boats of the largest type. The boats are sailed entirely by amateurs, the restrictions are simple and have produced a healthy type, as the September weather encountered off Marblehead and the strenuous winds of Kiel have demonstrated. They are not expensive to build, being within the means of men who have always sailed small boats, and the number raced always guarantees the best of sport. At the trial races in 1906 there were seventeen American boats entered, out of which the three defending boats were chosen. It is hoped that this year will find an even larger number of entries, and from widely separated sections. It is especially to be desired that the Pacific Coast will send a local-designed and built boat. We hope also to see representatives from the Great Lakes and the Southern Seaboard. It is important that the class be developed at other places than Marblehead and Long Island Sound, as in the next year or so we shall be called upon to send representatives to Kiel.

Germany and the America's Cup

Along with the batch of rumors that annually crop out at this season in regard to a challenge for the America's Cup comes one to the effect that the German Emperor has aspirations for the historic trophy. While there may be no doubt that the Emperor would be glad to see a challenge from Germany, we are somewhat skeptical as to one forthcoming in the near future.

Although the dismal failure of Sweden to finance a syndicate boat last year does not mean that there are not plenty of German yachtsmen with a purse of sufficient length to put through, in a proper manner, an attempt to lift the Cup, there has been up to this year a lack of German designers with sufficient experience to undertake the task. And had it not been for the wonderful success this season of the new schooner Germania, designed by Max Oertz, we should probably have no talk now of a possible challenge. This remarkable schooner broke the record for the Queen's course, doing the 47 miles in 3 hours 35 minutes and 11 seconds, an average speed of 13.1 knots per hour, and her advent marks a period in the history of German yacht building and designing. So wonderful has been the performance of this boat that the German Emperor has placed an order with Mr. Oertz for a racing yacht for next season, which has probably given rise to the present rumor of a possible challenge. The Emperor himself has already done much for International racing, as it was largely through his efforts that the smaller "Sonderklasse" boats came to this country, and that the Watson-designed Hamburg was entered as the German representative in the Transatlantic race of 1905 for a cup offered by the Kaiser himself, in which contest she finished second.

Now that Oertz has come along with Germania, German yacht building has been given an impetus of which it was much in need, and it is not surprising that the thoughts of German yachtsmen, and of even the Kaiser himself, should turn to a possible contender for the premier trophy of the world. Mr. Oertz's work shows the influence of both Herreshoff and Fife, which is but natural with so many American and English boats finding their way to Germany. But, be this as it may, we confidently look for more native-designed boats from German yards hereafter.

We are assured that the New York Yacht Club would welcome a challenge from some country other than England, if for no other reason than because that nation has long had a monopoly of the sport. Our intercourse with Germany has already been placed on a friendly and satisfactory basis, and American yachtsmen would be glad to see our friends of the North Sea and Baltic have a shy at the Cup, although we confess that there seems little likelihood of Germany or any other nation challenging as long as the present unsatisfactory conditions continue to govern the contest.

Government Control of Motor Boats

There seems to be no doubt that the Government is preparing to exercise some control over the motor boat, which may not stop at those of sufficient size to require registry. It is possible that this control may go further than seeing that the regulations as to equipment are complied with, and that some form of license for the operator may be required. With the phenomenal growth of motor-driven craft during the past few years this has seemed essential to the port officials of localities where the waterways are busy with commercial traffic.

A committee from the Marine Supplies Association of America has been appointed to watch legislation on the subject this winter at Washington. While they may not be able to prevent some new laws, they should at least see that the requirements in the case of small boats, of under 40 feet, say, are such that the man who has always handled his own craft will have no more trouble in filling them than does the man who takes out an operator's license for his motor car. Looking beneath the surface, it seems that much of the agitation comes from the labor organizations, who are pushing the matter with a view to requiring licensed men on motor yachts.

To require a highly-licensed man on all motor boats would be a blow to the sport and the trade that it would take a long time to recover from. We believe that a man who uses a motor boat should know the rule of the road and how to handle a small boat, and should thoroughly understand his engine. The majority of motor boatmen do know these things and can demonstrate their ability to handle their craft. Unfortunately, there are some who do not. These should learn. It should be their pride to become efficient; and a man with ordinary "sea sense" should have no trouble in mastering enough of the requirements in one season to keep out of trouble. If he cannot, he should stay ashore.

Chickering
Pianos

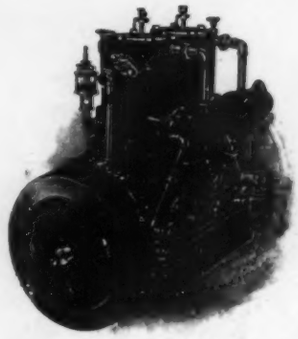
The Chickering Reputation is of far greater value to you, in purchasing a piano, than the most thorough demonstration; for the demonstration only tells you what the instrument is to-day. ¶ The Chickering reputation tells you that the Chickering you buy to-day will be the same Chickering twenty years hence. ¶ The Chickering reputation is your assurance of a lifetime's perfect service. ¶ Chickering Uprights, in Chippendale design, at our Boston showrooms, $500; Quarter Grands, $600 and $650. They may be had of our agents in other cities at the same prices with freights and delivery charges added. ¶ Our literature will be sent at your request. Established 1823.

Made Solely by CHICKERING & SONS

839 Tremont Street PIANOFORTE MAKERS Boston, Mass.

MOTOR BOAT SUPPLEMENT

New Ideas in Craft, Engines and Accessories



The Phœnix of the Marine Supply Trade On the night of Wednesday, October 21st, the two top floors of the main brick building of the Dayton Electrical Manufacturing Company, of Dayton, Ohio, were cleaned out by fire and the four lower floors badly flooded with water.

Such a catastrophe would certainly serve to put a severe damper on the average manufacturing concern. No so with the Dayton Company, whose officers held a meeting immediately after the fire and laid out definite plans for resuming business the following day. These plans were so well laid that by the next afternoon the company was, with the exception of the manufacturing end, doing business as if there had been no conflagration.

Enough finished stock was stored in a part of the building not damaged to enable them to take care of all orders until the manufacturing plant is again in operation, and the company is in a position to make immediate shipment of any goods required. The damage was covered by insurance, and instead of being discouraged by the fire, the officers are making renewed efforts with regard to the 1909 trade.

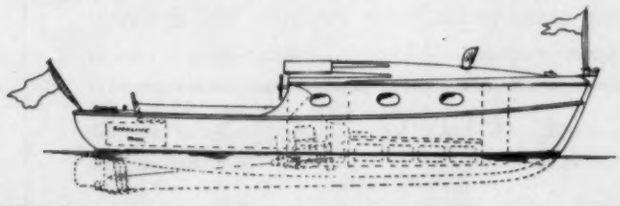
"Own Your Own Home and Don't Pay Rent." This battle-cry has long been the slogan of the suburban villa real estate agent, but now it has been taken up by the Racine Boat Manufacturing Company, of Muskegon, Mich., who are inaugurating a campaign in which the man who wants to live an outdoor life, and doesn't want to live it entirely in one place, can be accommodated both as to his pleasure and pocketbook.

With this end in view, the Racine Boat Manufacturing Company have brought out a 28-foot raised deck cruiser, drawing but 27 inches of water, and with 6¾ feet of beam. They have powered her with an 8-horsepower twin-cylinder motor, fitted with a reverse gear and stowed the engine in the after part of the cabin, where it will be out of the wet and out of the way. They have given the boat sleeping accommodations for four, and plenty of locker room to carry the food that those four will eat.

The boat has a speed of 8 miles per hour, and her light draft—2¼ feet—will let her go almost anywhere; take short cuts and get into sheltered nooks, where her occupants would like to tie up and stay for a week-end, a week, or for the whole summer.

She is a floating summer cottage, and to bring her within the reach of everyone, her builders will sell her on the installment plan on terms which are well worth the consideration of those who would like to have a floating summer home, a staunch little cruiser, and a rent-saving summer abode all in one.

She is a trim-looking little craft, too, with good freeboard forward, and a compromise stern, and the price at which she is sold puts her within reach of a number of people who would like to have something in the way of a cruiser for single-hand work, and have been wondering whether or not they could afford it during the coming year.



The 28-foot, raised-deck, hunting cruiser, which the Racine Boat Mfg. Co. is selling on the installment plan.

Comfort and Convenience for the Steersman. A new, patented steering device of the auto pattern, using a chain instead of the toothed rack, has been brought out by the Seaman Motor & Launch Works, of Long Branch, N. J. As will be seen by Figure 1, the device consists of a 10, 13 or 16-inch mahogany auto steering wheel, mounted on a hollow steering rod ⅞ inch in diameter. The lower end of the steering rod or shaft is squared and fits into a square mortise in the center of a ½-inch pitch, twelve-tooth roller-chain sprocket wheel, which engages a bronze chain.

At each side of the central sprocket wheel two bronze wheels, with bushed bearings, hold the chain up close to the teeth of the sprocket wheel in such a manner that seven of these teeth always engage the chain, and this without creating any undue friction. The good features of this arrangement will be readily appreciated, as the advantages in the way of strength which it presents over the rack and pinion movement, in which but one tooth at a time is engaged, need no lengthy explanation to those who appreciate the strain that is frequently placed upon the steering gear.

The mechanism, as illustrated in Figure 2, is securely housed in a two-piece casing, which is pivoted between two accurately-fitted hangers, which may be screwed to the floor; under floor, with direct lead aft; on after, forward or side coamings; on seat, motor bed or bulkhead, as may be desired by the owner.

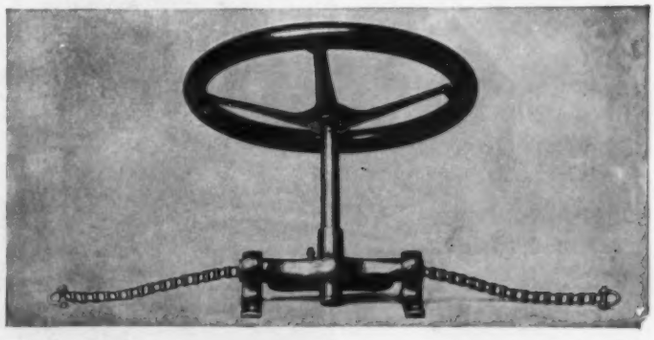


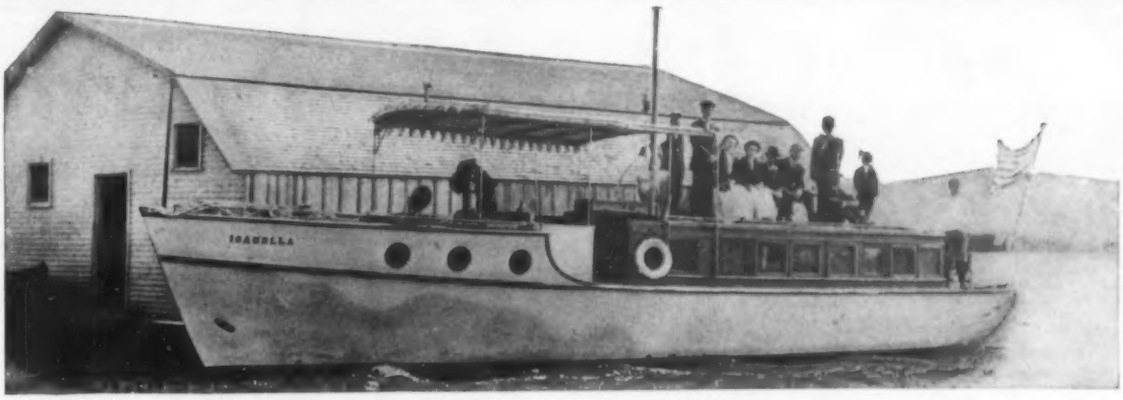
Fig. 1.—Seaman's Patent Steering Gear. This view shows the gear assembled and ready for installation.

The axle on which the mechanism swings is hollow, so as to allow the steering chain to run through it smoothly and easily. In fact, by simply removing the shackle from one end of the chain, it is possible to force the chain itself through axle and gearing without taking the steerer apart.

The mechanism in which the base of the shaft fits, being pivoted, allows the shaft to be shifted from a horizontal to a vertical position, as the steersman may desire, thereby allowing any desired change of posture on the steersman's part, a great convenience in a long trick at the wheel. The steering shaft may be made to any desired length, so that, by attaching the hangers to the floor of cockpit or the bridge deck, the steersman may stand upright and steer with a vertical shaft or sit down and bring the shaft over towards him, as if driving an automobile. The gear may be locked at any desired position by the insertion of a plug, which engages two of the sprocket-wheel teeth.

By the removal of one screw from the base of the steering rod, both wheel and rod may be instantly removed, thereby lessening the likelihood of unauthorized use of the boat.

The chain is of ½-inch pitch, ¼-inch face, full roller, 9/16-inch wide and 2 feet in length, giving plenty of movement to the tiller. One entire revolution of the wheel causes a 6-inch movement of the chain, and the proportion between the diameter of the steering wheel and that of the tooth-sprocket wheel is so arranged as to



52 ft. o. a.; 10 ft. 6 in. beam, 3 ft. 6 in. draught. 'Midship steering bridge with engine telegraph, reverse and all controls. Large owner's stateroom with permanent double bed. Also spacious saloon and galley. 27 H.P. engine; also crew's quarters under forward deck. Speed, 12 miles.

"ISABELLA"—A New 'Midship Deck Cruiser

ISABELLA is the rough-weather 52-foot cruiser described on pages 281 and 282 of November "Rudder." She probably combines more desirable features than any other boat of her size afloat. The broad 'midship and after decks furnish specially comfortable lounging spaces. The saloon is wide and roomy and with the owner's splendid double stateroom, sleeps seven. The interior is attractively finished in mahogany and white enamel and is lighted by electricity. This yacht will cruise in comfort and safety anywhere you would care to take her. . . . Craft of this type are not necessarily expensive. We are ready to duplicate this boat for $5,000, (certainly 40% less than the same craft would cost in the East), providing an elegant floating home. You can save proportionate amounts on the building of any craft from 10 to 300 feet in length. Write us your requirements. . . . . .

We Build Cruisers, Pleasure Boats and Yachts of all Descriptions

Also Launches, Rowboats, Hunting Boats and Canoes

RACINE BOAT MFG. CO., BOX 206 Muskegon, Mich.

NEW YORK, 1626 Broadway; CAMDEN, N. J., 38 Delaware Ave.; CHICAGO, 1610 Michigan Ave.; DETROIT, 182 Jefferson Ave.; SEATTLE, 321 First Ave. So.; THE IVER JOHNSON SPORTING GOODS CO., BOSTON, New England Agents.

There is only one system worthy of consideration

THE
SAFETY STORAGE SYSTEM
OF
ACETYLENE LIGHTING

Has given satisfaction wherever used.

We can refer to every owner on whose craft we have installed it.

It's the only acetylene system approved by National Board of Fire Underwriters and U. S. Steamboat Inspection Department.

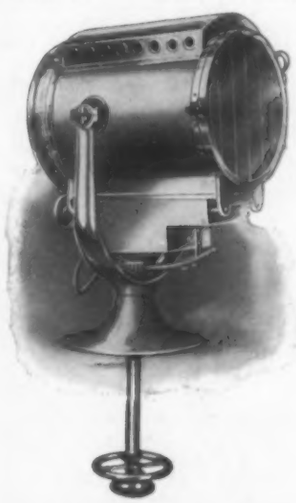
Tell us dimensions of your craft and describe accommodations and we will tell you approximate cost of lighting equipment.

ILLUSTRATED BOOKLET ON REQUEST

The Commercial Acetylene Co.
80 Broadway, New York City

CHICAGO 829 Monadnock Block — TORONTO 6 King St., West — ATLANTA 402 Equitable Bldg.

ELECTRIC SEARCHLIGHTS



For Launches, Yachts and all classes of marine craft

Write for Catalog

Electric Light Plants Direct Connected to Gasoline Engines

THE CARLISLE & FINCH COMPANY
254 E. CLIFTON AVE., CINCINNATI, O.

San Francisco Office, - - - Hersog & Dahl, 104 Howard St., San Francisco, Cal.
New York Salesroom, - - Motor Mart Building, 1576 Broadway, cor. 62d Street, W. K. Thomas, Sales Manager
Baltimore Office - Loane-Hiltz Engineering Co., 306 S. Hanover St., Baltimore, Md.
Galveston Office, - - - - - - R. L. Bettison, 2118 Strand St., Galveston, Texas
Dunedin, New Zealand, Hayward & Garratt, exclusive agents

give a powerful leverage to the helmsman. The whole apparatus may be dismounted in five minutes with only the aid of a screw driver; is extremely handsome in finish and very strong, the solid steering shaft being sweated into the upper and lower collars, and the chain constructed to stand a tensile strain of 1,200 pounds without giving way.

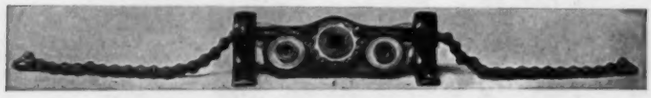


Fig. 2.—Base of steerer, with upper casing removed, showing how chain is made to engage the seven sprocket teeth.

As sent out from the factory, the equipment is complete in itself and is adaptable to any boat, from the smallest size to a 50-foot cruiser. Moreover, the moderate price at which it may be obtained puts it within reach of the owner who, while not heretofore entirely content with the old-fashioned steering wheel, has not cared to indulge in the expenditure formerly necessary for a steering gear of the automobile pattern. In addition to its other good features, this steerer, with a short shaft, makes an excellent wheel steering-gear for use of the engineer in an open boat, and it may, in fact, be placed on the engine, if desired. It will also be built to order in any size desired, and in special patterns, with motor control for bridge decks, and also as a component part of special binnacles.

Morris Heights is Certainly a Lively Place The 45-foot high-speed cabin motor boat Brush-By, Mr. W. M. Van Norden, which was sold by the Gas Engine & Power Company, and Charles L. Seabury & Co., Consolidated, of Morris Heights, New York City, to Mr. A. Ponvert, for service at Cienfuegos, Cuba, is fitted with a 6-cylinder Speedway motor, and can make over 20 miles per hour.

The 42-foot cruising motor boat Esperance, Mr. R. A. Dowler, was also sold by the same company to Mr. J. L. Wheeler, of Marion, S. C. She is equipped with a 4-cylinder 16-horsepower Speedway engine.

The new 35-foot high-speed teakwood motor boat, and the 35-foot teakwood steam launch tenders for the steam yacht Alcedo, Mr. George W. Childs Drexel; also the 28-foot power whale boat are about ready for delivery at the works of the Gas Engine & Power Company.

A new 25-foot mahogany motor boat of modern type has been built by the Seabury Company as tender for the steam yacht May, owned by Mr. A. Van Rensselaer, of Philadelphia.

A similar launch is being built as tender for Mr. R. A. C. Smith's Privateer.

Mr. G. H. Walker, of St. Louis, Mo., has placed an order with the Seabury Company for an open motor boat 45 feet long, 6 feet 6-inch beam, of teakwood hull and finish. This boat was designed specially for rough-water service, at Kennebunkport, Me., and has liberal freeboard with flaring bow. Her machinery equipment consists of a 6-cylinder Speedway gasolene motor. Twenty miles per hour is the speed. She will be similar to the Ketchikan II, built by the same company this year for Mr. Edward Kemp.

The 65-foot cruising motor boat for Mr. Clarence Morgan for service on Lake Champlain is progressing nicely, as well as the 50-foot mahogany cabin motor boat for service in the South. The latter will be similar to the Tequilla, built for Mr. David Dows, and the Bantam II, Mr. George D. Pratt, both 1908 Seabury productions. The new boat will have a 6-cylinder Speedway engine, and 23 miles per hour is the guarantee.

Mr. C. W. Bingham, of Cleveland, Ohio, has placed an order for a 1909 model, 30-foot Speedway launch of the runabout type, for service on Lake Worth. She will be shipped early in December.

There are laid up for the winter, in the basins, yards and warehouses of the Seabury Company the following yachts and motor boats: Helenita, Mr. F. J. Gould; Lyndonia, Mr. C. H. K. Curtis; American, Miss Grace Watt; Cherokee, Mr. S. H. Vandergrift; Crescent, Mr. George Rose; Duchess, L. J. Busby estate; Corinthia, T. M. Turner; Jessie, Mr. A. E. Austin; Vitesse, General Brayton Ives; Vixen, Mr. J. D. Archibald; Wasp, Mr. John T. Williams; Scud, Mr. Samuel Untermeyer; Little Sovereign, Mr. M. C. D. Borden; Vamoose, Mr. Walter Lewishon; Advance, Mr. W. W. Cole; Seabird, W. E. Burnham estate; Mabel, Royal Insurance Company; Mohawk, Mr. H. Wallerstein; Embla, Mr. E. S. Perot, Privateer, Mr. R. A. C. Smith; Golden Rod, Mr. Wm. C. Hinds; The Limited, Mr. A. C. Bostwick; Lowando, Mr. J. G. Jennings; John Duff and Katherine, O'Rourke Construction Company; F. M. Stinson, Mrs. D. Werle; Roxana, Mr. Lars Anderson; Chicota, Mr. Edwin Gould, and Presto, Mr. H. Smyth Martin.

Motor boats on storage at Morris Heights are: Osprey II, Mr. C. R. Runyon; Mary Ann, Mr. Lemuel Ely Quigg; There She Goes, Mr. Julius Fleischman; Skylark, Mr. J. H. Ottley; Veba, Mr. A. Velleman; Ranger, Mr. C. H. Hyams, Jr.; Speedway, Mr. J. R. Delamar; Chic, Mr. Whitney Lyon; Green Dragon, Mr. Geo. W. Baxter; Sally Growler, Mr. H. L. Terrell; Tioga, Mr. Wm. Sperb, Jr.; Kawita, Mr. H. T. Bragg; Ketchikan II, Mr. Edw. Kemp; Bantam II, Mr. Geo. D. Pratt; Tequila, Mr. David Dows; Jessamine, Mr. M. Schrenkheisen; Lady Jane, Reliance and Shadow, Mr. Jno. F. O'Rourke; Gallavant II, Mr. E. L. Dolson; Sea Wolf, Mr. J. A. Blair, Jr.; Beat It, Mr. Wm. M. Fleitman; Arcadia, Rev. J. D. Roach; Irma, Mr. J. Dowd; La Blanche, Mrs. W. J. Kress; So So, Mr. A. A. Stewart; Irene, Mr. Walter Lewishon; Inono, Mr. J. L. Buchanan; Roma, Mr. R. L. Niles; Beatrice, estate of E. R. Reynolds; Ella, G. H. Wolley; Iroquois, Thedora Richards; Zust, Mr. R. Bertelli; Frances, Mr. F. E. O'Callahan; Mavis, Mr. R. A. Shaw; Polly, F. F. Proctor; Fledermaus, Mr. A. M. Huntington; Normona, Mr. P. Gilbert Thebaud; Harry, Mr. J. W. Sullivan; Peggy, Chas. E. Warren; Caprice, Mrs. F. L. Redfield; Pampero, Mr. L. F. Leland; Danoosh, Mr. J. D. Acker; Willada, H. Newman; Intrepid, Lloyd Phoenix; Skeeter, R. J. Collier, and Southwinds, Mr. Geo. L. Shepley.

Two Noteworthy Inventions in the Ignition Field Of the new developments in the ignition field there are few more worthy of mention than the latest products of the Pittsfield Spark Coil Company, of Dalton, Mass., viz., the Pittsfield Magneto Plug and the Pittsfield Switch.

The Pittsfield Magneto Spark Plug is designed especially for use with a magneto, and the admirable skill and originality of the designer are shown in his plan of arranging the two spark gaps in the same plane, parallel with the plug end, so that neither spark interferes in the slightest degree with the work of the other.

That the theory is correct has been positively proved, the manufacturer states, by practical use, and most satisfactory results are being obtained, both as to economy in the use of gasolene and additional power and speed of the engine.

No packing, nut, or gland is necessary with this plug, as the taper of the brass bushing is largest at the cylinder end; the mica is turned an accurate fit for the whole length of the bushing, about one inch, giving a very long bearing, which *must* be gas tight, as every explosion tends to force the plug tighter into the bushing. Any standard thread may be had on the bushing, including a metric thread for French motors.

The new Pittsfield Switch, made by the same company, is an improvement on the switch they have been making for a number of years. There is sufficient metal to make the contacts sure and positive. The switch lever is extra heavy and reinforced by a stiff flat spring; the contact points are very large, and, taken in connection with the wiping action of the lever, a firm, positive and clean contact is inevitable.

The new Pittsfield Spark Plug, designed for use with magneto.

One of the important advantages of this switch is that the connections are so arranged that, with the plug out, there is no possible way in which the battery may be short circuited, as the battery circuit *must* remain open as long as the plug is out, whether the switch lever is left on the battery or not. The magneto circuit is just as positively closed. The insulation material is perfect and there is plenty of it used.

The owner of a launch equipped with this switch need have no fear of thieves, as with the plug safe in his own pocket no one else can start the boat, a nail or piece of wire being entirely useless for this purpose.

The Pittsfield Switch, which is proof against short circuit and thieves.

It is well known that mere theory does not count with the public. Everything new must prove itself before it will be generally taken up. These new developments of the Pittsfield Spark Coil Company are no exception to this rule, for they have passed successfully the practical test of actual work and, we are assured by the maker, are now being rapidly adopted by progressive owners of motor boats.

For a Convention During Show Week The response received to a letter recently sent out by the National Association of Engine and Boat Manufacturers, with reference to holding a convention in New York City, at which all yacht clubs might be fully represented, for the purpose of considering racing rules, legislation and other matters pertaining to the sport, has been most favorable. The holding of such a convention in the week of February 15, during the progress of the National Show, has met with approval, and no more advantageous time could have been selected.

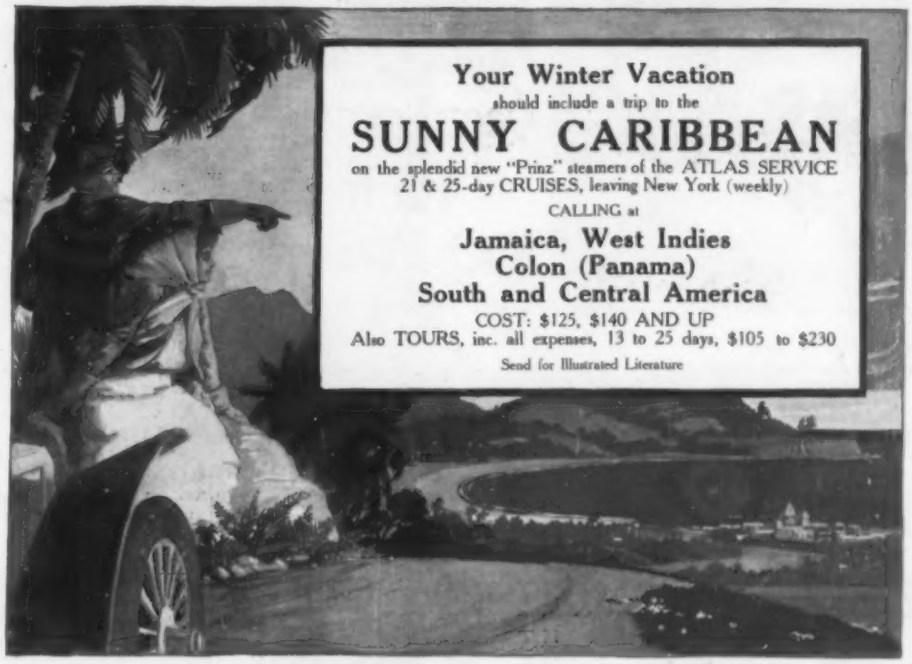
The movement, started by the National Association of Engine and Boat Manufacturers, is considered wise and commendable. The bringing together of all who are in any way interested in the sport, for the purpose of adopting, if pos-

JAMAICA

Offers unusual advantages for a delightful sojourn.

GOLF
SHOOTING
DRIVING
BATHING

2000 Miles of Macadam Road for Automobiling



Your Winter Vacation
should include a trip to the
SUNNY CARIBBEAN
on the splendid new "Prinz" steamers of the ATLAS SERVICE
21 & 25-day CRUISES, leaving New York (weekly)
CALLING at
Jamaica, West Indies
Colon (Panama)
South and Central America
COST: $125, $140 AND UP
Also TOURS, inc. all expenses, 13 to 25 days, $105 to $230
Send for Illustrated Literature

JAMAICA

has excellent hotels—equal to the best American Resort Hotels

Send for our book
"JAMAICA and the Spanish Main."

HAMBURG-AMERICAN LINE, Hamburg-American Bldg., **41-45 Broadway, N. Y.**
BOSTON CHICAGO PHILADELPHIA ST. LOUIS SAN FRANCISCO

The WICO

has a micrometer adjustment. That means that you can adjust the spark gap to a known distance—to 1-1000 OF AN INCH. Price, $1.00 each. Actual efficiency beyond price—they are invaluable.

Witherbee For Ignition

WICO CHARGING DEVICE
WICO IGNITION WIRE
WICO SPARK PLUGS
WITHERBEE BATTERIES
WICO INSPECTION LAMP

Witherbee Igniter Company

Makers of the famous Witherbee Battery

1876 BROADWAY, NEW YORK

CHICAGO - - - - 1429 MICHIGAN AVENUE
DETROIT - - - - 220 JEFFERSON AVENUE
BUFFALO - 43 EAST EAGLE ST., MAIN STREET
BALTIMORE OFFICE - 604 CONTINENTAL BUILDING

Start Right This Year

IF a disappointed *"Old Hand,"* because of previous unsatisfactory motor experience, learn the meaning of "Engine Satisfaction" by putting in a **"BUFFALO."** If a *"New Beginner,"* guard against trouble and ensure a pleasurable start and continuation in motor boating by following same plan

Engines for Any Size Boat, for Any Kind of Work, for Use Anywhere—the Dependable Kind which Have Created the "Buffalo Reputation."

2 to 100 H. P., 2 to 6 Cylinder, in regular Type; 6 to 54 H. P., 1 to 6 Cylinder, in Slow Speed Heavy Duty Type. All "BUFFALO QUALITY" throughout.

Our 48-page *Handsomely Illustrated* Catalogue sent free to interested parties on request.

BUFFALO GASOLENE MOTOR CO.

1260-72 Niagara St. Buffalo, N. Y.

Cabin Cruisers
Open Launches
Speed Boats
Yacht Tenders

AT LAST

We have the boat you have been after—a good design and carrier. Just the boat to put on deck and be proud of it. 8 FEET CEDAR DINK, 50 LBS.

Goble Boat Co., DESK Y Oswego, N.Y.

ANNOUNCEMENT

The cover of Yachting this month is done by the sensational new color photogravure process that has attracted such wide attention. This is the first magazine cover that has ever been executed in color photogravure, and has been possible only through the recent perfection of a newly invented process by which power presses are used. Heretofore photogravure has been entirely a hand process and as such an exceedingly costly one.

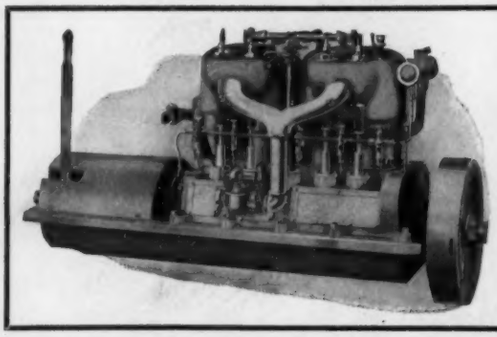
We announce that we are operating under the new Van Dyck Process and are prepared to undertake orders for both monotone and color work by this process for covers—inserts—posters—calenders—pictures—etc., **at prices comparing favorably with other methods of printing.** We are now doing work for some of the largest publishers and advertisers in the country, and shall be glad to submit specimens and estimates.

STEWART PUBLISHING COMPANY, 5 Beekman St., New York

WILLIAM H. GRIFFIN
SAIL MAKER
Special attention given to Yacht Sails of all kinds, canvas work of every description. Estimates Cheerfully given
Office and Loft:
MARINE BASIN, HUBBARD STREET
Adjoining Ulmer Park, - - Brooklyn, N. Y.

WANTED
I want every boat builder and boat owner to know that I manufacture and carry in stock a complete line of polished brass and nickel plated boat fittings and supplies. Catalog No. 3 free upon request. Ship Bells a specialty. CHAS. KAUFMANN, 28 Main Street, Oshkosh, Wis.

Sterling! Sterling!! Sterling!!!



Heavy Duty Engines
12, 40, 60 H.P.
Semi-Heavy Duty Engines
18, 25, 30, 35 and 45 H.P.
Speed Engines
25, 40, 45, 55, 65, and 100 H.P.
Two Cycle Engines
2½ to 9 H.P.

Bear the name *Sterling* in mind when you are looking for a thoroughly reliable marine engine. Don't take chances—*investigate*—and the more you investigate the more you will be satisfied with Sterling construction and Sterling quality. Write now for new 48-page catalog—you'll find it useful and interesting.

Sterling Engine Co., Buffalo, N. Y., U. S. A.
MEMBERS NATIONAL ASSOCIATION OF ENGINE AND BOAT MANUFACTURERS

sible, a universal rule is an excellent thing at this time.

Information relative to the convention will be gladly furnished by Mr. Hugh S. Gambel, secretary, 314 Madison Avenue, New York City.

Flag Etiquette

(*Continued from page 308.*)

When lying in port a yachtsman should never take his own time for sunset, or for colors. The rules vary when he is at anchor off his own club house. Sometimes the rules require that the time be taken from the commodore's yacht, or from the vessel of the senior owner in the harbor, or from the club house. When near a United States vessel or station, the time should be taken therefrom. To do otherwise would be a serious breach of etiquette.

In hoisting flags, which are to be displayed at half-mast, the colors should first be mast-headed and then lowered half way. In making salutes with an ensign at half-mast, it should be raised to the top of the staff before it is dipped.

The United States jack, a blue flag studded with stars, should be set on Sundays, on all special ceremonial occasions, or when the senior officer on board orders that it be set. The jack should be displayed from a staff on the bow. If a flag officer visits a vessel, that vessel should set the flag officer's flag, and it should be kept flying while he remains on board.

In dressing ship, rectangular flags should alternate with pennants, so far as is possible, on halyards leading to the mast heads and over the bows and sterns of vessels. The International Code parti-colored signal flags can be used to advantage, but the officers' flags or club burgees should never be used in this merely decorative work.

How to Build a Thirteen-Foot Power Tender—Part II.

(*Continued from page 310.*)

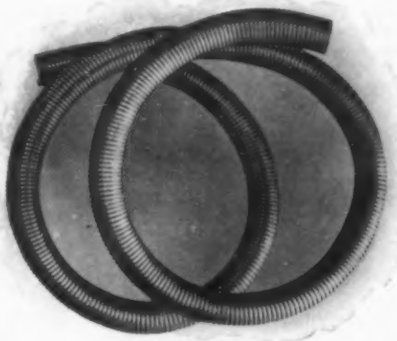
or three coats of the best spar varnish obtainable should be evenly applied to get a nice finish. If the boat is to be kept in the water for any length of time (especially salt water), it will be best to paint the underbody with copper or some good non-fouling paint.

In painting the outside of the boat one color above the waterline and another below, it is necessary to have a guide on the hull in order to get the paint on properly. To get the position of the waterline at any point, make a small stand, having a base about 15 inches square; from the centre of this, erect a piece of wood about 1 by 2 inches, and same 3 inches higher than the waterline is from the floor of the shop; then at the exact distance above the floor that the waterline is to be drawn, nail an arm about 6 inches long, the point of which touches the boat as the desired line. You can slide this stand over the floor of the shop from one end of the boat to the other and mark with a pencil the position of the waterline, after which you can tack a thin batten on the hull and scratch in the waterline with an awl, so that you will always be able to find it when you paint again. In using this method be sure that the boat is on the building horse or bed in the same position as when the keel was first set up, and is perfectly level across on top.

The fittings, such as rowlock sockets, deck plate, chocks, etc., can now be fastened on, and the rudder hung.

The installation of the engine is not very hard, as all reliable engine manufacturers send full instructions for installing.

As this boat is fairly easy to build, the amateur by carefully following out the instructions, should have no trouble with the construction.



Flexible Galvanized Steel and Copper Tubing

The best material for Exhaust, Gasolene Supply and Water Circulating Piping. Does away with sharp turns and pipe fitting. Can be carried around curves as easily as rubber hose. Made in all sizes from ¼ to 2 inch. The greatest convenience ever offered to motor boat owners and builders.

Send for prices and full particulars. Discount to the trade.

THE NEW YORK FLEXIBLE METALLIC HOSE AND TUBING CO.
173-177 Lafayette Street, New York

Allsteel

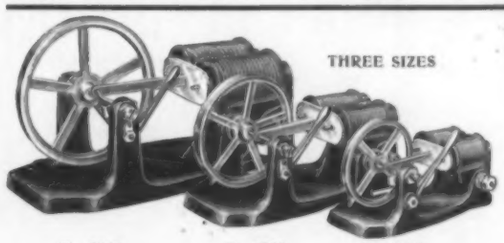
CLOTHING LOCKERS

Necessary to the pleasure of club life—to say nothing of ending locker maintenance expense. Cannot burn; insure privacy; perfectly ventilated; absolutely sanitary. Not affected by dampness. Unit principle. Finish is enamel, prevented from flaking off by baking at high temperature. Olive green, or other colors to match interior woodwork.

Get Booklet YG, showing types of ALLSTEEL Lockers. State style, size, whole number, number to a row, for information on special lockers.

THE GENERAL FIREPROOFING COMPANY
YOUNGSTOWN, OHIO

CHRISTMAS SUGGESTIONS



THREE SIZES

List No. 1011 PRICE, $1.25

List No. 1012 PRICE, $1.00

List No. 1013 PRICE, $ .75

No. 1011 No. 1012 No. 1013

Fun for boys. Runs toys. Amusing and instructive. Can be run constantly for days with one, two or three dry cells, similar to our Red Seal.

SERIES DECORATIVE OUTFIT

OPERATED FROM INCANDESCENT LAMP CIRCUIT

for lighting Christmas Trees and interior decoration where lighting effects are desired. The Outfit consists of one or more festoons of Silk Covered Flexible Wire, each Festoon with eight Pendant Porcelain Sockets wired thereto and an attaching Plug to be screwed into a convenient Lamp Socket, which supplies the necessary electric current. For use on all voltages running from 45 to 250. In ordering be sure to state voltage.

List No.		Price
13424,	One Festoon (8 Sockets), 9 Lamps	$ 3.50
13425,	Two Festoons (16 Sockets), 18 Lamps	5.85
13426,	Three Festoons (24 Sockets), 27 Lamps	8.40
13427,	Four Festoons, (32 Sockets), 36 Lamps	10.50
13428,	Extra Festoons (8 Sockets), ready to connect to any of the above outfits, with 9 Lamps	2.80

SEND FOR CATALOG Y-22

Manhattan Electrical Supply Company
17 PARK PLACE (General Offices and Salesrooms)
110 W. 42d St. (Branch)
NEW YORK
188 FIFTH AVENUE
CHICAGO

Never Touched Us

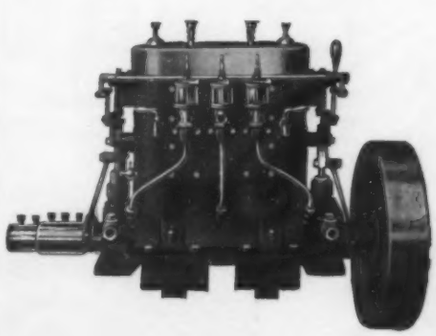
On October 20th our plant was visited by a disastrous fire, destroying a large part of our stock and machinery. We saved enough, however, of new stock, uninjured in any way, to fill all orders for the next sixty days for

THE HUBLER-DAYTON STORAGE BATTERY

Apple Ignition Dynamo, and our other well-known ignition specialties, without delay. After which time, we will have our factory again in order, turning out more goods than before, to fill the growing demand. Write us for full information on anything pertaining to ignition.

THE DAYTON ELECTRICAL MFG. CO., 99 St. Clair St., Dayton, O.

STANLEY MOTORS



MAKE AND BREAK IGNITION

Direct from Factory to User at FACTORY PRICES

We also manufacture the well-known

TOQUET MOTORS

which can now be purchased direct from us.

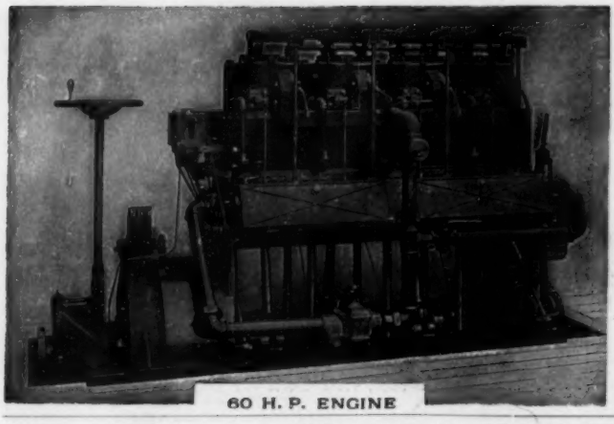
HIGHEST CLASS OF WORKMANSHIP

Have stood the test of Long Service

Prompt Deliveries

WRITE FOR CATALOGUE WITH PRICE LIST. IT WILL INTEREST YOU.

THE STANLEY CO., 79 Milk St., Boston, Mass.



60 H. P. ENGINE

Gasoline Yachts & Engines

NOTED FOR RELIABILITY

Tregurtha Water Tube Boilers, Steam Launches & Engines

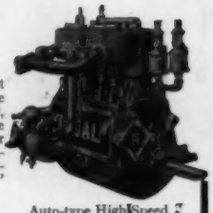
Send for Circulars and Second Hand List

MURRAY & TREGURTHA CO.

340 West First Street South Boston, Mass.

New York Office, Room 1228, 150 Nassau St.

The Engine That's "Built To Run and Does It"



Yes, sir, Regal Engines are at their best when **in action.** Take the auto type, high speed Regal, for instance, which is the one engine for any motor boat or launch. Note its extreme simplicity, every part a strong working part and easily "get-at-able."

Auto-type High Speed 4

Regal Four Cycle

Cylinders have integral heads — cast in one piece. Perfect mixture at all times under any weather condition. Positive oil-feed.

Every Regal Engine is absolutely guaranteed to do satisfactory work, and can be operated at one-half the expense of 2 cycle engines of same power rating. Four Cycle, Jump Spark Ignition Engines made in 3 to 5-H. P. Single Cylinder; 6 to 10-H. P. Double Cylinder; 16 to 20-H. P. Four Cylinder.

Write to-day for our newest Engine Catalogue No. 6 that tells all about ***good*** Marine Engines, both ***high speed*** and ***slow speed*** type. Address

The REGAL GASOLINE ENGINE COMPANY

52 W. Pearl Street, Coldwater, Mich.

OSTERMOOR BOAT CUSHIONS

Non-Absorbent—Will Float—Auxiliary Life Preservers

Send for Catalogue

OSTERMOOR & CO., 105 Elizabeth St., New York

TANKS

GALVANIZED OR PAINTED

GASOLENE TANKS

WATER TANKS

HIGH PRESSURE AIR TANKS

Tanks for Mufflers, Air Whistles, Etc.

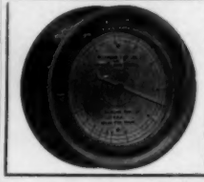
WM. B. SCAIFE & SONS CO.

Founded 1802 PITTSBURGH, PA.

GET THIS BIG BOAT BUILDING BOOK

Let this build your own boat easy. Our big 100 page Boat Builders' Book shows you how. 300 illustrations explains "Knock-down Plans." Shows how you save ½ the boat builder's expense. Send 25 cents today for this book of valuable information. Money cheerfully refunded if not fully satisfied. Learn how much fun you can have this winter building a boat for next summer.

Pioneer Boat & Pattern Co., Wharf 309, Bay City, Mich



What Speed is She Making?

A Nicholson Speed Indicator tells you this instantly, conveniently, at any time.

NICHOLSON SHIP LOG CO.
Cleveland, Ohio

Eastern Agents, Barrett & Lawrence 662 Bullitt Bldg., Philadelphia, Pa. Pacific Coast Ag., C. P. Nicholson 82 Market St., San Francisco, Cal.

Look this page over

Send for our 66-page 1909 catalog. This catalog will interest you as it contains a complete line of Marine Hardware and Deck Trimmings. Five Models of Reverse Gears, including two speeds ahead and also a self-locking. Nine different types of Propeller Wheels pitch ratio ranging from 1.1 to 1.5. Six new styles of Steering Wheels. Everything new and up to date. Every boatman should have this catalog. Be sure and send for it, as it is full of new and up to date stuff.

Michigan Wheel Co.
Grand Rapids, Mich.

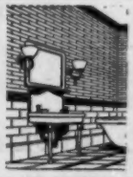
THE FAMOUS MICHIGAN SPEED WHEELS

THE FAMOUS MICHIGAN REVERSE GEAR

FOR SALE

Complete sets of Castings with Forgings and Blueprints for Gasoline Marine Engines, 3 to 50 H. P., Opposed and Vertical.

COMET MOTOR WORKS
Madison and Canal Streets, Chicago, Ill.



Tile your Bathroom

and kitchen walls with the only PERFECT metallic imitation of PORCELAIN tile—

NorCoTile Steel TILING
Trade-Mark

Cost only one-fifth. Lasts lifetime. Germ, Fire, Waterproof. Ask dealer for booklet, or write the manufacturers, **NORTHROP, COBURN, DODGE CO., 39 Cherry St., N.Y.**

SAMSON SOLID BRAIDED CORD

for halyards, tiller rope (special tiller rope with wire center), log lines, hand rails, etc.

Best Material, Perfect Braid.

Samples and full information gladly sent.

Samson Cordage Works, Boston, Mass.

MARBLEHEAD GREEN

Absolutely Anti-Fouling

STEARNS & McKAY Mfgrs.

MARBLEHEAD, MASS.

High Grade Heavy Weight Tanks

For Gasolene, Water and Air of any shape or dimensions desired for any pressure. We make only work of merit.

"Light Competition Work Not Wanted."

Galvanizing of all kinds of marine work.

L. O. KOVEN & BROTHER

50 Cliff Street : : : New York

Special attention given to making of Racing Sails for all classes.

WILSON & SILSBY

ROWE'S WHARF, BOSTON, MASS.

Our Cable Address is "WILSAILS," Boston, W.U.C.C.

"THE PERFECTED MOTOR BOAT
NOISELESS AND SAFE

Also Clipper Launches, combining everything you need in a boat—power, speed, safety, comfort, superlative seagoing qualities. Also Atlantic Motors from 3 to 15 H. P., 1, 2 and 3 cylinders.

The Atlantic Co., Amesbury, Mass., U. S. A.

SEND FOR CATALOGUE.

Make Your Course Straight with a J. A. G.

This device placed on the combing of your Motor Boat enables you to run your engine and steer your craft at the same time. Simple, positive, practical. Neat fixture in any boat. Attachable or detachable without cutting tiller rope. **"Around the Lake with a J. A. G."** Describes how you can sit in the engine seat and steer your boat. If your dealer does not have the J. A. G., ask for prices.

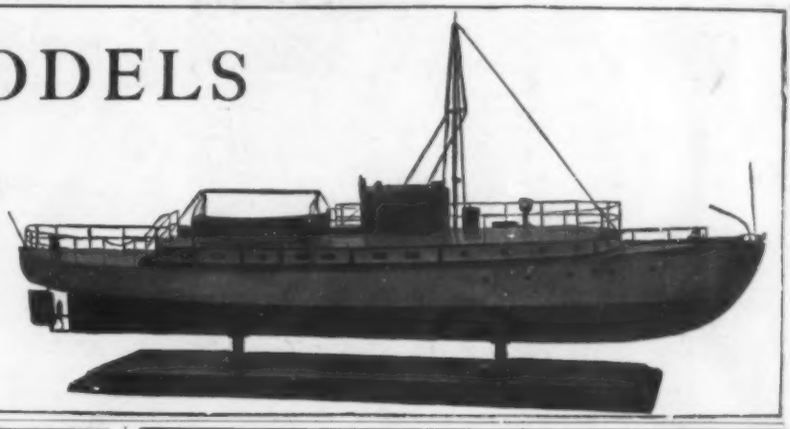
J. A. GARRETT, 74 State Street, Auburn, N. Y.

MARINE MODELS

The H. E. Boucher Mfg. Co.

91 Maiden Lane, NEW YORK

INVENTIONS DEVELOPED
SPECIAL MACHINERY
PATTERN MAKING
DRAUGHTING



Edson Steering Gears

have stood every test for nearly fifty years.

Established 1859.

EDSON MANUFACTURING CO.
260 Atlantic Ave., Boston, Mass.

VALVELESS
Lackawanna Marine Engines

INSTRUCTION TREATISE

A New Book just from the press. The most complete and practical treatise yet published. Covering all the problems of Installation, Operation and Maintenance. It is worth its weight in gold to owner, operator or prospective buyer of Motor Boat or Marine Engine. **Price, 10c.**

Lackawanna Marine Engines are a practical, proven success. They have been improved by practical expert marine engine builders and operators. Every feature has demonstrated its practical value. There is not a weak point left. There is not a feature that you would advise changing after running the New Lackawanna for a season. It is right. Its use will prove it right in your judgment—right in principle, right in operation, right in price.

Send for New Catalogue.

LACKAWANNA MFG. CO., 16 Caldwell St., Newburgh, N. Y.
New York Office: 126 Liberty St. Tel., 4721 Cortlandt
New England Office: Lockwood Mfg. Co., East Boston, Mass.

1909
NATIONAL
MOTOR BOAT SHOW
UNDER THE AUSPICES OF THE
National Association of Engine & Boat Mfrs.
AT
Madison Square Garden
NEW YORK CITY

The only MOTOR BOAT SHOW in N. Y. City

Opens Monday, Feb. 15th, 8 p.m.
Closes Tuesday, Feb. 23d, 11 p.m.
Sunday excepted

For floor plans and details relating to the Show Address
J. A. H. DRESSEL, Mgr.
138 WEST 42d STREET
Tel., Bryant 2143 NEW YORK CITY

JAGER ENGINE

"Staying Power Conclusively Demonstrated" is no idle boast.

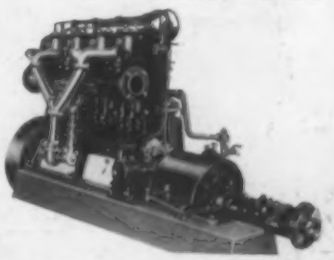
Scientific, practical and convenient design, coupled with suitable material and painstaking care in building develop assured results. Jager engines are built in four distinct types:

Heavy Duty Slow Speed Four Cycle.
16-75 H. P. two to six cylinders.

Light Weight High Speed Four Cycle.
26-75 H. P. three to six cylinders.

Medium Speed Medium Weight Four Cycle.
3-40 H. P. one to six cylinders.

High Speed Light Weight Two Cycle.
7 H. P. two cylinders.



We can supply propellers specially designed by Burgess.

Send for our free **Marine Engine Catalog.**

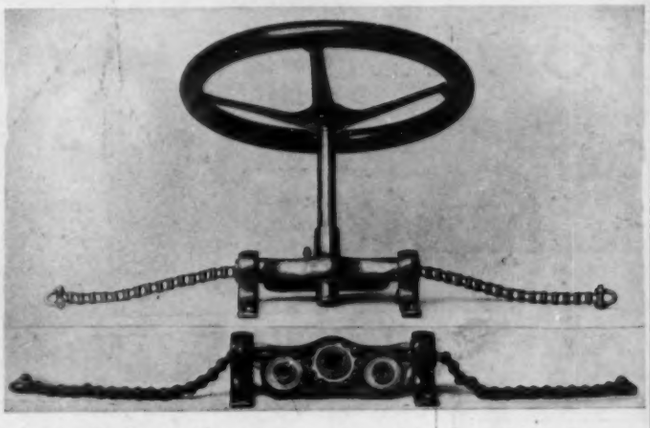
CHAS. J. JAGER CO., 281-283 Franklin Street, Boston, Mass., or 33 Canal Street, Providence, R. I.

NOV 30 1908

ONLY $15.00

SEAMAN'S PATENTED AUTO BOAT STEERER

For any Power Boat up to 50 feet.



Absolutely the best steerer made. Handsome mahogany wheel—choice of 10, 13 or 16 inch diameter. Heavy polished brass rod and casing. Bronze gear wheels and roller chain. Seven sprocket teeth always engaged. May be fastened to floor, bulkhead, coaming, deck, engine bed, or installed under flooring with lead aft. Steering rod adjustable to any position, from vertical to horizontal. Instantly locked. Steering bar and wheel may be removed in an instant and stored in locker. Chain inserted and removed without taking gear apart. If your dealer does not have it, we will ship on receipt of price. Send for circular.

SEAMAN MOTOR & LAUNCH WORKS, 491 ATLANTIC AVENUE, **LONG BRANCH, N. J.**

Trade **LOWELL** Mark

Reg. U. S. Pat. Off.

DUCK

Ask the Winners

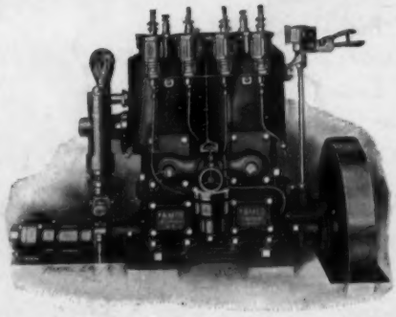
HERE ARE TEN WINNERS WHICH HAVE CROSSED THE LINE FIRST WITH LOWELL DUCK

ELMINA II	CHERRY CIRCLE
DERVISH	QUEEN
AILSA	AVENGER
GENESEE	AURORA
VIM	ELEANOR

THERE ARE HUNDREDS OF OTHERS

Regular for Cruising
Special for Racing

Lowell Weaving Co.
Lowell
Mass.



T & M

Reversible Engines

ALWAYS LEAD

Termaat & Monahan Co.

OSHKOSH, WIS.

You Will Be Interested

in

THE IMPROVED

BALL

REVERSE GEAR

for

MOTOR BOATS

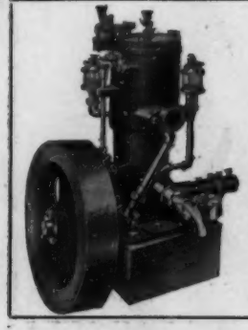
Made only of Hardened Steel Spur Gears.
Most Reliable.
Highest Grade.
Easiest to Install.

Four Sizes Carried in Stock.

SEND FOR CATALOGUE

Manufactured by

New York Gear Works
56-58 Greenpoint Ave.,
BROOKLYN, N. Y.



ROYAL ENGINE

A strictly high-grade engine of medium speed, built to meet the demand for a practical power developing machine for WORK whether installed in a business or pleasure boat.

2½ to 15 H.P.

ROYAL EQUIPMENT CO.
157 Housatonic Ave.
Bridgeport Conn.

CUSHIONS That "Fit"

EST'B 1845

MANUFACTURED BY

M.W. FOGG 202 FRONT ST NEW YORK U SA

My '09

You Can Have One For Your Boat

In every kind of try-out the Roper Safety Propeller has been

A TRIUMPHANT SUCCESS

We are preparing to manufacture these propellers for 1909 in larger quantities than ever so that we can sell them at reduced prices and on easy terms. We believe that every boatman who knows anything about the Roper Safety Propeller will want one for his own boat, and we are going to make it easy for him to buy one.

HERE IS OUR SPECIAL OFFER

We will send a Roper Safety Propeller, freight prepaid, anywhere in the United States to any person sending us a request and giving us satisfactory references, and let him use it for thirty days on his own boat free of charge, with the agreement that if it shall fail to perform as represented and guaranteed by us, he can return it at our expense and without having to pay us so much as one dollar; but also with the agreement that if he finds it to be entirely satisfactory he is then to pay us for it in cash or by draft, certified check or money order, when it is to become his property.

THIRTY DAYS' FREE TRIAL ON YOUR OWN BOAT

Remember, we deliver it, freight prepaid, anywhere in the United States. At the end of the thirty days, if it is satisfactory you pay for it and keep it. If it is not satisfactory, you return it to us and we pay the freight. It is all left for you to decide, after giving it the thirty days' trial on your own boat.

We take all the risk because we can afford to take it. We know that this propeller is so much superior to every other for use on motor boats that once you try it out for yourself on your own boat you would not part with it for double the price if you could not obtain another.

It is not only the best but also the most reliable and dependable propeller ever used on a motor boat.

If it is the best you want it. If it were not the best we could not afford to take the risk of selling it on any such terms as the above.

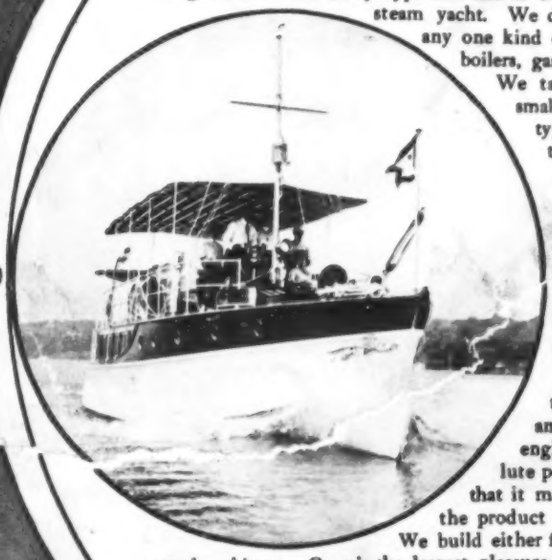
To avoid delay, please write to us immediately, stating in detail just what your needs are, and giving style and size of your boat, power and make of engine, distance from engine shaft to outside of stern post, and any other information you desire us to have, and we will send you the kind of outfit you require; and all on the above terms.

C. F. ROPER & CO., Hopedale, Mass.

25 Years of Progress

Experience Counts

TWENTY-FIVE years ago, when we started business, gasolene as a fuel was utilized only in the naptha engine built by us. To-day we are building gasolene yachts of over a hundred feet in length. We have designed and built every type and size of craft from the yacht's dinghy to the cruising steam yacht. We do not confine ourselves to the installation of any one kind of power, building as we do steam engines and boilers, gasolene motors and the only naptha engine.



We take particular pleasure in the construction of the smaller cruiser, runabout and moderate sized open launch types, as the facilities of our shop allow us to turn out these small boats with the same finish and thorough completeness which we put into the largest steam yacht. Nowhere else can the man who wants a satisfactory little boat get so much excellence in same dimensions as we are prepared to give him.

In whichever class of boat we have exerted our efforts, we have made a successful record ranging from the fast runabout to such craft as the government torpedo destroyer "Bailey" or the steam yacht "Kanawha," the fastest cruising steam yacht in this country.

We build the "Speedway" motor in various sizes and types adapted for speed, cruising and auxiliary purposes, and also for working boats. The fact that a boat or an engine is built by our concern guarantees not only absolute perfection of detail and honesty of workmanship, but that it may at any time be disposed of at a higher price than the product of any other builder.

We build either from our own designs or those of our customer's naval architect. Ours is the largest pleasure boat building plant in the country, and with a quarter of a century of experience at our back, we give our customers concrete results of a knowledge which millions of dollars have been expended in obtaining.

We would like to talk with you about a boat for next season, and would be very glad, indeed, to send you our latest catalog—a finely illustrated booklet full of information—or to submit plans and specifications to meet your requirements without expense to you.

A decision made and an order placed before the annual "spring rush" means so much in the way of early delivery that we earnestly suggest that you take up the matter with us now.

GAS ENGINE & POWER COMPANY & CHAS. L. SEABURY & CO. Cons'd.

MORRIS HEIGHTS, NEW YORK CITY